West Virginia Energy Handbook 1979

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WEST VIRGINIA ENERGY HANDBOOK - 1979

Statistics Compiled

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PREFACE

The purpose of this handbook is to provide a comprehensive reference source of West Virginia energy data. A less comprehensive United States section is included for comparison. This publication does contain a few minor discrepancies due to the different methods of calculation employed by the various statistical sources. Much care has been exercised to insure that the statistics which appear in this publication are the most accurate available.

The following organizations provided valuable assistance in compiling this document.

West Virginia State Government

Air Pollution Control Commission
Geological and Economic Survey
Department of Mines
Department of Natural Resources
Oil and Gas Conservation Commission
Public Service Commission
Tax Department

United States Federal Government

Army Corps of Engineers
Bureau of Mines
Department of Energy
United States Geological Survey

Private Sector

American Association of Petroleum Geologists
American Gas Association
American Petroleum Institute
Edison Electric Institute
National Coal Association
West Virginia Coal Association

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ENERGY UNIT CONVERSION CHART

Fuels	Units	Conversion Ratio from Source	Physical Units	Physical to BTU Conversion Factor	BTU Units (Heat Content)
Anthracite Coal	Net tons	1/1,000,000	10^6 Net tons	25.4 10^6 BTU per ton	10^{12} BTU
Asphalt and Road Oil	Short tons	1/1,000	10^3 Short tons	(5.537*6.636)/1,000 = .0367435 10^6 BTU per bbl.	10^{12} BTU
Bituminous Coal (except electric and industrial)	10^3 Short tons	1/1,000	10^6 Short tons	23.529**	10^{12} BTU
Bituminous Coal Electric Utility	10^3 Short tons	1/1,000	10^6 Short tons	28.121**	10^{12} BTU
Bituminous Coal Industrial	10^3 Short tons	1/1,000	10^6 Short tons	27.0 10^6 BTU per ton	10^{12} BTU
Petroleum Refinery Coke (used as fuel)	10^6 barrels	None	10^6 barrels	6.024 10^6 BTU per bbl.	10^{12} BTU
Distillate and Diesel Fuel Oil	10^3 barrels	1/1,000	10^6 barrels	5.825 10^6 BTU per bbl.	10^{12} BTU
Electricity	10^6 KWH	1/1,000	10^9 KWH	3.412 10^3 BTU per KWH	10^{12} BTU
Gasoline Total Consumption (1960-1967)	10^3 gallons	1/1,000	10^6 gallons	5.248*1/42 = .1249525 10^6 BTU per bbl.	10^{12} BTU

*Indicates multiplication.
**Average for years 1960-1977.

Fuels	Units	Conversion Ratio from Source	Physical Units	Physical to BTU Conversion Factor	BTU Units (Heat Content)
Gasoline Total Consumption (1968-1975)	10^3 barrels	42/1,000	10^6 gallons	5.248*1/42 = .1249525 10^6 BTU per bbl.	10^{12} BTU
Gasoline	10^3 gallons	1/1,000	10^6 gallons	5.248*1/42 = .1249525 10^6 BTU per bbl.	10^{12} BTU
Jet Fuel Military	(U.S. total only) 10^3 barrels	42/1,000	10^6 gallons	5.355*1/42 = .1275 10^6 BTU per bbl.	10^{12} BTU
Jet Fuel Commercial	10^3 gallons	1/1,000	10^6 gallons	5.572*1/42 = .13267 10^6 BTU per bbl.	10^{12} BTU
Kerosene	10^3 barrels	1/1,000	10^6 barrels	5.67 10^6 BTU per bbl.	10^{12} BTU
Liquid Petroleum Gas	10^3 gallons	1/1,000	10^6 gallons	4.011*1/42 = .0955 10^6 BTU per bbl.	10^{12} BTU
Natural Gas	10^6 cubic feet	1/1,000	10^9 cubic feet	1.032 10^3 BTU per cu. ft.	10^{12} BTU
Residual Fuel Oil	10^3 barrels	1/1,000	10^6 barrels	6.287 10^6 BTU per bbl.	10^{12} BTU

WEST VIRGINIA ENERGY DATA

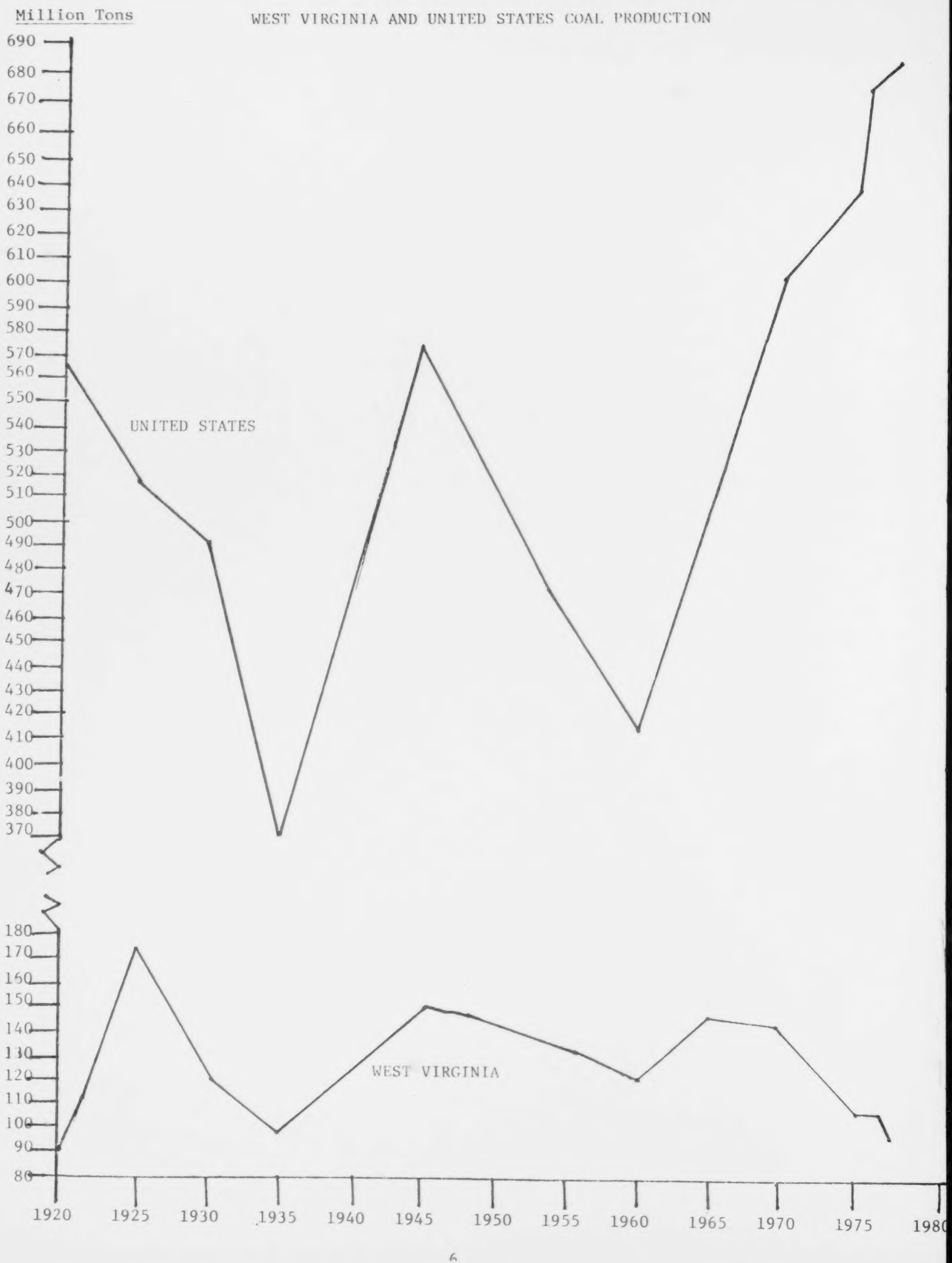
WEST VIRGINIA AND UNITED STATES COAL PRODUCTION - TONS
1920 - 1977

Year	West Virginia	% Change in Production Over Year - W. Va.	United States	% Change in Production Over Year - U. S.	W. Va. % of Total Production U. S.
1920	89,590,271	+ 5.4	568,666,683		16
1921	90,452,996	+ .9	415,921,950	-36.7	22
1922	79,394,786	-13.9	422,268,099	+ 1.5	19
1923	97,475,177	+22.7	564,564,662	+33.7	17
1924	103,325,960	+ 6.0	483,686,538	-16.7	21
1925	176,306,656	+70.6	520,052,741	+ 7.5	34
1926	144,603,574	-21.9	573,366,985	+10.3	25
1927	146,088,121	+ 1.0	517,763,352	-10.7	28
1928	133,866,587	- 9.1	500,744,970	- 3.4	27
1929	139,297,146	+ 4.0	534,988,593	+ 6.8	26
1930	122,429,767	-13.7	497,526,299	- 7.5	25
1931	102,698,420	-19.2	382,089,396	-30.2	27
1932	86,114,506	-19.3	309,709,872	-23.4	28
1933	94,130,508	+ 9.3	333,630,533	+ 7.7	28
1934	98,441,233	+ 4.5	359,368,022	+ 7.7	27
1935	99,810,908	+ 1.4	372,373,122	+ 3.6	27
1936	118,134,202	+18.4	439,087,903	+18.2	27
1937	118,965,066	+ .7	445,531,449	+ 1.5	27
1938	93,511,099	-27.2	348,544,764	-27.8	27
1939	108,515,665	+16.0	394,855,325	+13.3	27
1940	126,619,825	+16.7	460,771,500	+16.7	27
1941	140,944,744	+11.3	514,149,245	+11.6	27
1942	156,752,598	+11.2	582,692,937	+13.3	27
1943	160,429,576	+ 2.3	590,177,069	+ 1.3	27
1944	164,954,218	+ 2.8	619,576,240	+ 5.0	27
1945	151,909,714	- 8.6	577,617,327	- 7.3	26
1946	143,977,874	- 5.5	533,922,068	- 8.2	27

WEST VIRGINIA AND UNITED STATES COAL PRODUCTION - TONS
(Continued)

Year	West Virginia	% Change in Production Over Year - W. Va.	United States	% Change in Production Over Year - U. S.	W. Va. % of Total Production U. S.
1947	173,653,816	+20.6	630,623,722	+18.1	28
1948	168,589,003	- 3.0	599,518,229	- 5.2	28
1949	122,913,540	-37.2	437,868,036	-37.0	28
1950	145,563,295	+18.4	516,311,053	+18.0	28
1951	163,448,001	+12.3	533,664,732	+ 3.7	30
1952	142,181,271	-15.0	466,840,782	-14.3	30
1953	131,872,563	- 7.8	457,290,449	- 2.1	29
1954	113,029,046	-16.7	391,706,300	-16.7	29
1955	137,073,372	+21.3	464,633,408	+18.6	29
1956	150,401,233	+ 9.7	500,874,077	+ 7.8	30
1957	150,220,548	- .1	492,703,916	- 1.7	30
1958	115,245,791	-30.3	410,445,547	-20.0	28
1959	117,770,002	+ 2.2	412,027,502	+ .4	29
1960	120,107,994	+ 1.9	415,512,347	+ .8	29
1961	111,370,864	- 7.8	402,976,802	- 3.1	28
1962	117,018,419	+ 5.0	422,149,325	+ 4.8	28
1963	128,924,165	+10.2	458,928,175	+ 8.7	28
1964	139,361,204	+ 8.1	486,997,952	+ 6.1	29
1965	149,236,013	+ 7.1	512,088,263	+ 5.2	29
1966	148,826,592	- .3	533,881,210	+ 4.3	28
1967	152,461,567	+ 2.4	552,626,000	+ 3.5	28
1968	145,113,550	- 5.1	545,245,000	- 1.4	27
1969	139,315,720	- 4.2	560,505,000	+ 2.8	25
1970	143,132,284	+ 2.7	602,932,000	+ 7.6	24
1971	118,317,785	-21.0	552,192,000	- 9.2	21
1972	122,856,378	+ 3.8	595,386,000	+ 7.8	21
1973	115,239,146	- 6.6	591,738,000	- .6	19
1974	101,713,580	-13.3	603,406,000	+ 2.0	17
1975	109,048,898	+ 7.8	648,438,000	+ 7.0	17
1976	108,793,594	- .2	678,685,000	+ 4.5	16
1977	95,405,977	-14.0	688,575,000	+ 1.5	14

*Sources: West Virginia Coal Association's "Coal Facts" 1978.
West Virginia Department of Mines, Annual Report.



Million Tons
WEST VIRGINIA AND UNITED STATES COAL PRODUCTION
690
680
670
660
650
640
630
620
610
600
590
580
570
560
550
540
530
520
510
500
490
480
470
460
450
440
430
420
410
400
390
380
370
UNITED STATES
180
170
160
150
140
130
120
110
100
90
80
WEST VIRGINIA
1920
1925
1930
1935
1940
1945
1950
1955
1960
1965
1970
1975
1980

RECAPITULATION OF WEST VIRGINIA COAL PRODUCTION AND EMPLOYMENT BY COUNTY

	UNDERGROUND				SURFACE				GRAND TOTALS			
COUNTIES	Companies	Mines	Production	Employees	Companies	Mines	Production	Employees	Companies	Mines	Production	Employees
Barbour........	11	20	1,211,029	1,015	27	64	1,851,733	764	38	84	3,062,762	1,779
Boone..........	32	87	6,531,247	4,807	17	43	2,087,746	948	49	130	8,618,993	5,755
Braxton........	6	7	38,489	70	5	7	90,045	46	11	14	128,534	116
Brooke.........	4	4	527,935	340	6	10	264,654	69	10	14	792,589	409
Cabell.........	1	1	-	-	-	-	-	-	1	1	-	-
Clay...........	8	13	11,827	36	4	4	36,439	18	12	17	48,266	54
Fayette........	28	54	1,601,712	1,925	28	65	854,323	678	56	119	2,456,035	2,603
Gilmer.........	4	7	19,231	23	5	6	174,952	81	9	13	194,183	104
Grant..........	2	7	1,190,353	956	6	27	388,558	99	8	34	1,578,911	1,055
Greenbrier.....	18	25	389,862	358	15	28	549,238	342	33	53	939,100	700
Harrison.......	20	34	2,342,458	1,134	36	67	1,129,583	661	56	101	3,472,041	1,795
Kanawha........	20	64	4,531,956	3,837	15	52	1,942,131	739	35	116	6,474,087	4,576
Lewis..........	6	8	64,392	23	15	40	381,827	274	21	48	446,219	297
Lincoln........	1	2	156,322	110	-	-	-	-	1	2	156,322	110
Logan..........	63	158	5,052,402	4,563	17	29	1,768,391	747	80	187	16,925,597	5,310
Marion.........	6	9	3,630,414	2,732	9	9	81,214	32	15	18	3,711,628	2,764
Marshall.......	2	4	4,340,211	2,432	-	-	-	-	2	4	4,340,211	2,432
Mason..........	2	2	10,272	39	-	-	-	-	2	2	10,272	39
McDowell.......	97	220	5,792,171	7,049	20	37	598,494	441	117	257	6,390,665	7,490
Mercer.........	6	13	397,899	525	3	4	11,321	18	9	17	409,220	543
Mineral........	-	-	-	-	6	16	353,349	96	6	16	353,349	96
Mingo..........	56	97	2,672,771	1,718	10	17	344,199	205	66	114	3,016,970	1,923
Monongalia.....	26	44	7,750,332	3,645	14	29	1,053,941	240	40	73	8,804,273	3,885
Nicholas.......	45	80	3,382,068	2,621	32	70	1,065,007	606	77	150	4,447,075	3,227
Ohio...........	1	2	1,031,953	860	-	-	-	-	1	2	1,031,953	860
Preston........	24	33	1,020,527	418	33	78	1,171,637	515	57	111	2,192,164	933
Putnam.........	1	1	-	3	-	-	-	-	1	1	-	3
Raleigh........	48	83	4,877,375	5,157	17	43	683,144	482	65	126	5,560,519	5,639
Randolph.......	20	40	483,836	548	12	29	807,628	264	32	69	1,291,464	812
Summers........	3	3	11,024	23	-	-	-	-	3	3	11,024	23
Taylor.........	1	1	4,515	4	5	8	98,552	63	6	9	103,064	67
Tucker.........	-	-	-	-	2	29	297,157	84	2	29	297,157	84
Upshur.........	11	16	693,834	408	20	48	751,962	559	31	64	1,445,796	967
Wayne..........	3	3	205,056	169	-	-	-	-	3	3	205,056	169
Webster........	26	34	117,539	105	13	25	439,041	169	39	59	556,580	274
Wyoming........	82	171	5,265,575	5,978	12	19	64,195	111	94	190	5,329,770	6,089
TOTALS....	684	1,347	65,356,587	53,631	404	903	19,340,461	9,351	1,088	2,250	84,697,048	62,982

*Source: West Virginia Department of Mines - 1978 Annual Report.

METHOD OF WEST VIRGINIA COAL PRODUCTION

All Types

	1965	1966	1967	1968	1969	1970	1971
Mechanically Loaded	67,613,837	66,585,027	66,407,038	59,830,551	50,773,128	45,667,100	34,393,187
Continuous Miner.	56,464,780	59,506,184	64,489,829	65,349,424	66,725,609	68,607,266	57,285,197
Hand Loaded Conveyors. . .	970,486	862,078	561,157	431,149	989,332	582,987	157,819
Hand Loaded Cars	9,203,241	5,899,116	3,991,312	2,798,965	1,960,151	1,125,880	556,840
Underground Total. . . .	134,252,344	132,852,405	135,449,336	128,410,089	120,448,220	115,983,233	92,403,043
Surface.	11,002,563	11,111,821	11,759,301	12,218,676	14,547,427	22,162,630	22,359,672
Auger.	3,981,106	4,862,366	5,252,930	4,484,785	4,320,073	4,986,421	3,555,070
Outside Total. . . .	14,983,669	15,974,187	17,012,231	16,703,461	18,867,500	27,149,051	25,914,742
Grand Total. . .	149,236,013	148,826,592	152,461,567	145,113,550	139,315,720	143,132,284	118,317,785

METHOD OF WEST VIRGINIA COAL PRODUCTION
(Continued)

All Types

	1972	1973	1974	1975	1976	1977	1978
Mechanically Loaded	35,102,421	31,653,996	22,337,125	22,148,613	19,490,725	14,685,681	11,750,252
Continuous Miner.	64,958,113	63,292,978	59,762,491	66,176,282	68,145,463	59,242,603	53,547,369
Hand Loaded Conveyors. . .	223,781	327,497	-----------	-----------	-----------	-----------	----------
Hand Loaded Cars	757,380	173,419	86,573	89,925	175,090	101,881	58,966
Underground Total. . . .	101,041,695	95,447,890	82,186,189	88,414,820	87,811,278	74,030,165	65,356,587
Surface.	19,122,553	17,575,203	19,527,391	20,634,078	20,982,316	21,375,812	19,340,461
Auger.	2,692,130	2,216,053	-----------	-----------	-----------	-----------	----------
Outside Total. . . .	21,814,683	19,791,256	19,527,391	20,634,078	20,982,316	21,375,812	19,340,461
Grand Total. . .	122,856,378	115,239,146	101,713,580	109,048,898	108,793,594	95,405,977	84,697,048

*Source: West Virginia Department of Mines, Annual Reports

Note: Auger Production has been combined with Surface Mined Production for 1974 -- 1978.

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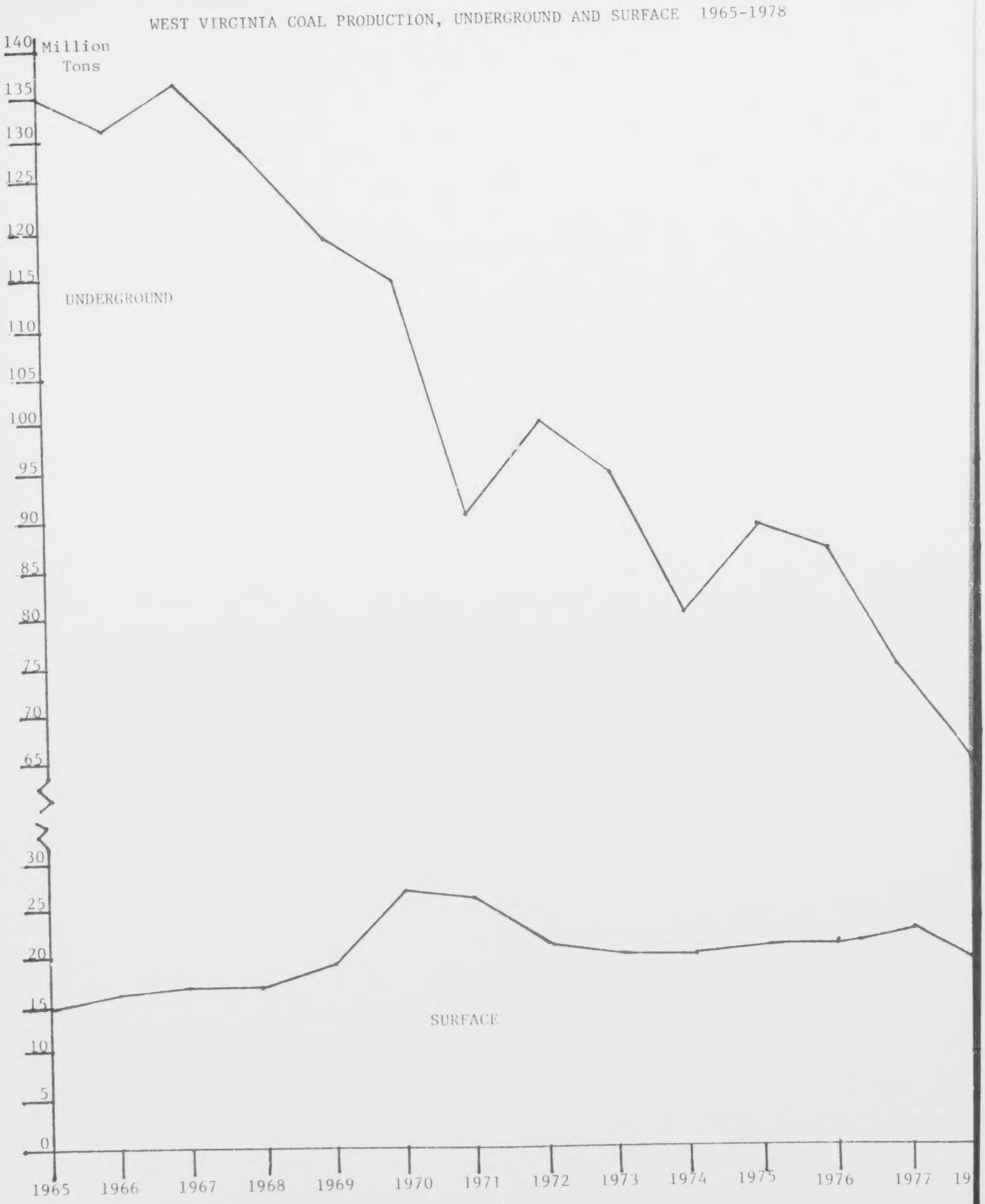


SURFACE MINING PERMITS ISSUED IN WEST VIRGINIA
1967 - 1978

Year	Number of Permits	Acreage Involved
1967	94 (6 mo.)	4,150.31 Acres
1968	336	13,434.85 Acres
1969	400	15,710.55 Acres
1970	616	31,802.39 Acres
1971	343	30,000.34 Acres
1972	246	24,508.13 Acres
1973	241	20,586.77 Acres
1974	255	18,919.49 Acres
1975	272	16,965.50 Acres
1976	278	22,249.25 Acres
1977	214	16,402.65 Acres
1978	201	17,407.31 Acres
Total	3,496	232,137.54 Acres

*Source: Department of Natural Resources, Reclamation Division Status Report, March 1979

RECLAMATION OF SURFACE MINED ACREAGE 1961 - 1978
(In Acres)

Year	Soil Conservation Districts	Operator	Special Reclamation and Bond Forfeiture	Total
1961	878.00			878.00
1962	2,471.08	600.00		3,071.08
1963	2,574.05	460.00		3,034.05
1964	2,373.70	605.00	25.30	3,004.00
1965	3,668.10	901.00	786.60	5,335.70
1966	3,213.20	690.50	2,753.57	6,657.20
1967	4,100.36	740.00	2,552.68	7,303.04
1968	8,956.37	9,054.86	1,199.87	19,918.00
1969	8,253.11	4,463.41	4,400.88	17,117.40
1970	5,355.88	5,985.72	1,903.87	13,245.47
1971	5,352.92	12,321.01	2,695.76	20,369.69
1972	3,665.15	20,052.50	3,604.87	27,332.52
1973	1,239.76	19,982.47	4,110.28	25,332.51
1974	1,116.33	17,387.33	2,114.13	20,617.79
1975	664.05	13,895.16	981.00	15,540.21
1976	1,129.80	15,919.50	894.40	17,943.70
1977	600.50	14,553.02	724.00	15,877.52
1978	790.50	10,949.22	701.45	11,971.17

*Source: Department of Natural Resources, Reclamation Division Status Report, March 1979

TOP TEN COAL PRODUCING COUNTIES IN WEST VIRGINIA

1978	1977	1976	1975	1974	1973	1972	1971	1970	1969	1968	1967	1966	1965
1. Monongalia	1	1	1	1	2	2	2	4	5	6	6	9	6
2. Boone	3	2	3	3	3	4	5	6	6	7	7	6	8
3. Logan	4	5	5	6	6	6	4	2	2	2	2	1	2
4. Kanawha	6	6	6	5	5	5	6	5	4	5	5	5	5
5. McDowell	2	3	2	2	1	1	1	1	1	1	1	2	1
6. Raleigh	7	7	7	8	8	8	7	7	8	8	8	7	7
7. Wyoming	5	4	4	4	4	3	3	3	3	3	3	3	3
8. Nicholas	9	9	8	7	10	10	10	10	10	9	9	8	10
9. Marshall	10	11	10	9	9	9	11	12	12	14	12	13	15
10. Marion	8	8	9	13	7	7	8	8	7	4	4	4	4

*Source: West Virginia Department of Mines

LEADING COAL PRODUCERS IN WEST VIRGINIA FOR THE YEAR 1978
(DOES NOT INCLUDE AFFILIATED COMPANIES)
In Tons

1.	Consolidation Coal Company - Morgantown Operations - Marion, Monongalia Counties	6,125,431	
2.	Eastern Associated Coal Corporation - Boone, Marion, McDowell, Monongalia, Raleigh, Wyoming Counties	5,278,893	S
3.	Consolidation Coal Company - Moundsville Operations - Marshall County	4,132,305	
4.	Consolidation Coal Company - Fairmont Operations - Harrison, Marion Counties	3,834,474	
5.	Valley Camp Coal Company, The - Kanawha, Marshall, Ohio Counties	2,604,411	S
6.	Island Creek Coal Company - Boone, Grant, Logan, Nicholas, Preston, Upshur, Wyoming Counties	2,579,283	S
7.	United States Steel Corporation - McDowell, Mingo, Wyoming Counties	2,460,306	S
8.	Consolidation Coal Company - Blacksville Operations - Monongalia County	2,118,355	
9.	Bethlehem Mines Corporation - Barbour, Boone, Kanawha, Marion, Nicholas, Raleigh, Upshur Counties	2,027,525	
10.	Armco Steel Corporation - Boone, Raleigh Counties	2,025,654	
11.	Carbon Fuel Company - Boone, Fayette, Kanawha Counties	1,494,479	
12.	Cannelton Industries, Inc. - Boone, Fayette, Kanawha, McDowell Counties	1,487,154	S
13.	Amherst Coal Company - Logan County	1,377,044	S
14.	Westmoreland Coal Company - Boone, Fayette, Greenbrier, Logan, Nicholas, Raleigh, Upshur, Wyoming Counties	1,327,034	S
15.	King Knob Coal Company, Inc. - Barbour, Harrison, Monongalia Counties	1,240,777	S
16.	Consolidation Coal Company - Southern Appalachian Region - McDowell, Mercer, Wyoming Counties	1,234,871	
17.	Cedar Coal Company - Boone, Kanawha Counties	1,165,742	S
18.	Sewell Coal Company (Pittston) - Fayette, Greenbrier, Nicholas Counties	936,170	S
19.	Buffalo Mining Company - Logan, Wayne, Wyoming Counties	909,010	S
20.	Allied Chemical Corporation (Semet-Solvay Division) - Fayette, McDowell Counties	882,693	S

S - Surface Mine

Source: West Virginia Department of Mines, Annual Report 1978

WEST VIRGINIA COAL EMPLOYMENT

YEAR	EMPLOYMENT	YEAR	EMPLOYMENT
1920	97,426	1950	119,121
1921	116,726	1951	111,562
1922	107,709	1952	100,862
1923	121,280	1953	84,093
1924	115,964	1954	64,849
1925	111,708	1955	64,321
1926	120,638	1956	68,318
1927	119,618	1957	66,792
1928	112,751	1958	55,065
1929	107,393	1959	52,352
1930	107,832	1960	48,696
1931	97,953	1961	42,557
1932	86,829	1962	43,456
1933	95,367	1963	44,854
1934	106,590	1964	44,205
1935	109,779	1965	44,885
1936	111,625	1966	43,344
1937	115,052	1967	42,742
1938	103,735	1968	41,573
1939	104,022	1969	41,941
1940	130,457	1970	45,261
1941	112,875	1971	48,858
1942	112,817	1972	48,190
1943	105,585	1973	45,041
1944	103,146	1974	46,026
1945	97,380	1975	55,256
1946	102,393	1976	59,802
1947	116,421	1977	61,815
1948	125,669	1978	62,982
1949	121,121		

*Source: West Virginia Department of Mines

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES

Underground Mines

	1965	1966	1967	1968	1969	1970	1971
Production..................	134,252,344	132,852,345	135,449,336	128,410,089	120,448,220	115,983,233	92,403,043
Number of Companies.........	1,230	1,113	944	812	699	617	493
Number of Mines.............	1,709	1,608	1,352	1,198	1,028	900	752
Number of Employees.........	42,008	40,710	39,586	38,155	38,290	39,747	42,699
Total Man Days Worked.......	8,280,584	8,348,178	8,395,403	8,024,131	7,934,095	8,605,353	8,026,883
Average Days Per Man........	197	205	212	210	207	217	188
Tons Mined Per Day..........	684,491	630,666	629,154	605,325	600,722	544,205	452,570
Tons Per Man Per Day........							
*Large Mines...........	17.0	16.4	16.4	16.2	15.3	13.4	11.4
*Small Mines...........	9.8	10.8	11.3	12.1	12.9	13.3	12.3
Tons Mined Per Man Per Year.							
*Large Mines...........	3,628	3,643	3,761	3,646	6,347	3,041	2,268
*Small Mines...........	1,125	1,288	1,238	1,327	1,445	1,523	1,190

*Large Mines - Employment of fifteen men or more.
*Small Mines - Employment of fourteen men or less.

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES
(Continued)

Underground Mines

	1972	1973	1974	1975	1976	1977	1978
Production.................	101,041,695	95,447,890	82,229,554	88,414,820	87,811,278	74,030,165	65,356,587
Number of Companies.........	398	360	376	473	802	492	684
Number of Mines.............	677	621	637	859	903	831	1,347
Number of Employees.........	42,088	40,154	41,750	48,293	57,771	61,815	53,631
Total Man Days Worked.......	9,192,329	8,922,378	8,814,148	11,760,063	12,313,639	10,607,796	8,337,372
Average Days Per Man........	218	222	211	244	238	201	155
Tons Mined Per Day..........	478,234	439,424	531,786	613,991	717,236	653,127	420,303
Tons Per Man Per Day........	------------	------------	12.7**	14.6**	15.7**	14.5**	9.2**
*Large Mines...........	10.9	10.6	------------	------------	------------	------------	------------
*Small Mines...........	13.0	14.7	------------	------------	------------	------------	------------
Tons Mined Per Man Per Year.	------------	------------	2,688**	2,115**	1,696**	1,644**	1,432**
*Large Mines...........	2,444	2,412	------------	------------	------------	------------	------------
*Small Mines...........	1,401	1,599	------------	------------	------------	------------	------------

Source: Compiled from West Virginia Department of Mines - Annual Report.

*Large Mines - Employment of fifteen or more.
*Small Mines - Employment of fourteen or less.
**Note: Data no longer differentiates between Large and Small Mines.

SUMMARY OF UNDERGROUND EMPLOYMENT BY COUNTY

1978

COUNTY	Production	Number of Companies	Number of Mines	Number of Employees	Total Man Days Worked	Average Days Per Man	Tons Mined Per Day	Tons Per Man Per Day	Tons Mined Per Man Per Year
Barbour.......	1,211,029	11	20	1,015	161,536	159	7,618	9.3	1,493
Boone.........	6,531,247	32	87	4,807	803,219	167	38,608	9.5	1,614
Braxton.......	38,489	6	7	70	5,344	76	533	8.3	601
Brooke........	527,935	4	4	340	60,480	170	2,932	10.8	1,955
Cabell........	-	1	1	-	-	-	-	-	-
Clay..........	11,827	8	13	36	5,131	143	53	1.7	394
Fayette.......	1,601,712	28	54	1,925	313,650	162	10,218	6.2	974
Gilmer........	19,231	4	7	23	3,000	130	145	7.6	1,012
Grant.........	1,190,353	2	7	956	176,488	184	6,365	7.4	1,385
Greenbrier....	389,862	18	25	358	47,529	132	2,962	9.1	1,199
Harrison......	2,342,458	20	34	1,134	192,549	169	14,274	14.9	2,460
Kanawha.......	4,531,956	20	64	3,837	661,382	172	26,553	8.1	1,383
Lewis.........	64,392	6	8	23	4,175	181	338	18.7	3,577
Lincoln.......	156,322	1	2	110	20,240	184	849	10.1	1,860
Logan.........	5,052,402	63	158	4,563	674,861	147	33,811	8.9	1,344
Marion........	3,630,414	6	9	2,732	470,872	172	20,710	8.7	1,539
Marshall......	4,340,211	2	4	2,432	430,646	177	24,112	11.8	2,139
Mason.........	10,272	2	2	39	1,512	38	163	4.9	311
McDowell......	5,792,171	97	220	7,049	888,288	126	47,032	7.8	962
Mercer........	397,899	6	13	525	51,586	98	4,097	9.5	925
Mingo.........	2,672,771	56	97	1,718	221,476	128	22,232	15.0	1,804
Monongalia....	7,750,332	26	44	3,645	647,080	177	43,873	14.0	2,482
Nicholas......	3,382,068	45	80	2,621	443,827	169	19,864	8.6	1,474
Ohio..........	1,031,953	1	2	860	143,815	167	6,180	8.5	1,423
Preston.......	1,020,527	24	33	418	76,899	183	5,806	15.5	2,724
Putnam........	-	1	1	3	-	-	-	-	-
Raleigh.......	4,877,375	48	83	5,157	811,996	157	31,156	7.0	1,106
Randolph......	483,836	20	40	548	69,930	127	3,745	7.8	1,016
Summers.......	11,024	3	3	23	4,715	205	5	.3	689
Taylor........	4,515	1	1	4	404	101	44	14.6	1,505
Upshur........	693,834	11	16	408	68,004	166	4,102	13.4	2,274
Wayne.........	205,056	3	3	169	23,088	136	1,386	10.6	1,577
Webster.......	117,539	26	34	105	15,028	143	1,191	12.8	609
Wyoming.......	5,265,575	82	171	5,978	838,622	140	39,342	7.6	1,017
TOTALS...	65,356,587	684	1,347	53,631	8,337,372	155	420,303	9.2	1,432

Source: Department of Mines - Annual Report 1978.

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES

Surface Mines

	1965	1966	1967	1968	1969	1970	1971
Production..................	14,983,669	15,974,187	17,012,231	16,703,461	18,867,500	27,149,051	25,914,742
Number of Companies..........	281	311	246	244	243	331	335
Number of Operations.........	313	340	290	318	322	450	476
Number of Employees..........	2,877	2,634	3,156	3,418	3,651	5,514	6,911
Total Man Days Worked........	448,826	483,696	525,371	507,418	522,755	775,799	897,803
Average Days Per Man.........	156	183	166	148	143	140	130
Tons Mined Per Day...........	99,805	92,473	111,207	118,912	137,039	201,155	206,265
Tons Per Man Per Day.........	------------	------------	------------	------------	------------	------------	------------
Surface Mines...........	31.2	30.3	29.6	31.2	34.5	34.2	28.6
Auger Mines.............	41.3	41.2	40.8	38.4	42.4	38.6	30.5
Tons Mined Per Man Per Year..	------------	------------	------------	------------	------------	------------	------------
Surface Mines...........	5,038	6,058	5,158	4,895	5,461	5,253	3,970
Auger Mines.............	5,786	6,078	5,996	4,880	4,377	3,851	2,780

WEST VIRGINIA COAL INDUSTRY
RECAPITULATION OF PRODUCTION, EMPLOYMENT, PRODUCTIVITY AND TOTAL COMPANIES
(Continued)

Surface Mines

	1972	1973	1974	1975	1976	1977	1978
Production	21,814,683	19,791,256	19,868,408	20,634,078	20,982,316	21,375,812	19,340,461
Number of Companies	301	261	200	278	467	305	404
Number of Operations	653	521	352	502	504	509	903
Number of Employees	6,092	4,882	4,432	6,963	8,031	9,283	9,351
Total Man Days Worked	821,421	716,253	756,789	1,122,521	1,204,710	1,199,156	1,198,778
Average Days Per Man	135	147	171	161	150	129	128
Tons Mined Per Day	183,780	138,712	163,832	171,149	166,413	164,176	147,897
Tons Per Man Per Day	------------	------------	25.5*	26.6*	27.8*	19.9*	17.6
Surface Mines	26.0	27.2	------------	------------	------------	------------	------------
Auger Mines	30.4	31.2	------------	------------	------------	------------	------------
Tons Mined Per Man Per Year	------------	------------	4,361*	3,210*	3,167*	3,210*	2,302*
Surface Mines	3,823	4,298	------------	------------	------------	------------	------------
Auger Mines	2,470	2,795	------------	------------	------------	------------	------------

Source: Compiled from the West Virginia Department of Mines' Annual Reports.
*Note: Data no longer differentiates between Auger and Surface Mining.

SUMMARY OF SURFACE MINE EMPLOYMENT BY COUNTY

1978

COUNTY	Production	Number of Companies	Number of Mines	Number of Employees	Total Man Days Worked	Average Days Per Man	Tons Mined Per Day	Tons Per Man Per Day	Tons Mined Per Man Per Year
Barbour........	1,851,733	27	64	764	94,717	123	13,308	18.7	2,608
Boone..........	2,087,746	17	43	948	112,249	118	16,578	19.2	2,419
Braxton........	90,045	5	7	46	7,056	153	592	14.8	2,251
Brooke.........	264,654	6	10	69	9,472	137	1,849	30.8	4,410
Clay...........	36,439	4	4	18	3,852	214	170	10.6	2,277
Fayette........	854,323	28	65	678	81,036	119	7,257	11.7	1,382
Gilmer.........	174,952	5	6	81	13,204	163	1,026	14.2	2,429
Grant..........	388,558	6	27	99	16,582	167	2,121	23.0	4,223
Greenbrier.....	549,238	15	28	342	45,735	133	3,816	12.3	1,771
Harrison.......	1,129,583	36	67	661	71,870	108	12,319	21.0	1,934
Kanawha........	1,942,131	15	52	739	104,657	141	13,217	19.6	2,894
Lewis..........	381,827	15	40	274	27,655	100	4,309	17.6	1,564
Logan..........	1,768,391	17	29	747	124,082	166	10,418	15.6	2,651
Marion.........	81,214	9	9	32	3,922	122	621	23.8	3,123
McDowell.......	598,494	20	37	441	50,112	113	4,380	11.3	1,550
Mercer.........	11,321	3	4	18	1,882	104	178	12.7	808
Mineral........	353,349	6	16	96	11,814	123	2,369	26.9	4,015
Mingo..........	344,199	10	17	205	29,119	142	2,582	13.8	1,840
Monongalia.....	1,053,941	14	29	240	39,935	166	5,791	27.3	4,971
Nicholas.......	1,065,007	32	70	606	82,538	136	8,656	15.7	1,943
Preston........	1,171,637	33	78	515	65,478	127	9,292	21.0	2,656
Raleigh........	683,144	17	43	482	58,751	121	5,476	12.6	1,577
Randolph.......	807,628	12	29	264	41,085	166	4,959	21.5	3,511
Taylor.........	98,552	5	8	63	6,859	108	910	16.2	1,759
Tucker.........	297,157	2	29	84	13,616	162	1,892	25.2	3,962
Upshur.........	751,962	20	48	559	49,846	89	9,999	19.8	1,489
Webster........	439,041	13	25	169	23,916	141	2,617	17.3	2,907
Wyoming........	64,195	12	19	111	7,738	69	1,120	11.2	641
TOTALS....	19,340,461	404	903	9,351	1,198,778	128	147,897	17.6	2,302

Source: Department of Mines - Annual Report 1978

WEST VIRGINIA COAL MINING INJURIES BY COUNTY - 1978

COUNTIES	UNDERGROUND		SURFACE		TOTAL	
	Fatal	Non-Fatal	Fatal	Non-Fatal	Fatal	Non-Fatal
Barbour	-	67	-	13	-	80
Boone	4	611	-	47	4	658
Braxton	-	-	-	1	-	1
Brooke	-	27	-	2	-	29
Clay	-	1	-	1	-	2
Fayette	2	211	-	27	2	238
Gilmer	-	-	-	2	-	2
Grant	-	49	-	3	-	52
Greenbrier	-	21	-	16	-	37
Harrison	-	18	-	9	-	27
Kanawha	2	391	-	25	2	416
Lewis	-	-	-	2	-	2
Lincoln	1	-	-	-	1	-
Logan	2	394	-	22	2	416
McDowell	3	293	-	4	3	297
Marion	-	132	-	-	-	132
Marshall	-	52	-	-	-	52
Mason	-	1	-	-	-	1
Mercer	-	6	-	-	-	6
Mineral	1	-	-	-	1	-
Mingo	1	87	-	3	1	90
Monongalia	3	219	-	7	3	226
Nicholas	2	259	1	8	3	267
Ohio	-	101	-	-	-	101
Preston	1	19	-	8	1	27
Raleigh	1	602	1	10	2	612
Randolph	1	22	-	11	1	33
Summers	-	-	-	-	-	-
Taylor	-	-	-	-	-	-
Tucker	-	-	-	-	-	-
Upshur	-	18	-	2	-	20
Wayne	2	11	-	-	2	11
Webster	-	8	-	3	-	11
Wyoming	1	363	-	-	1	363
TOTALS	23	3,896	2	226	25	4,122

*Source: West Virginia Department of Mines - Annual Reports 1978.

WEST VIRGINIA COAL MINING

FATAL ACCIDENTS AND THEIR CAUSES FROM 1934 TO 1978 (INCLUSIVE)

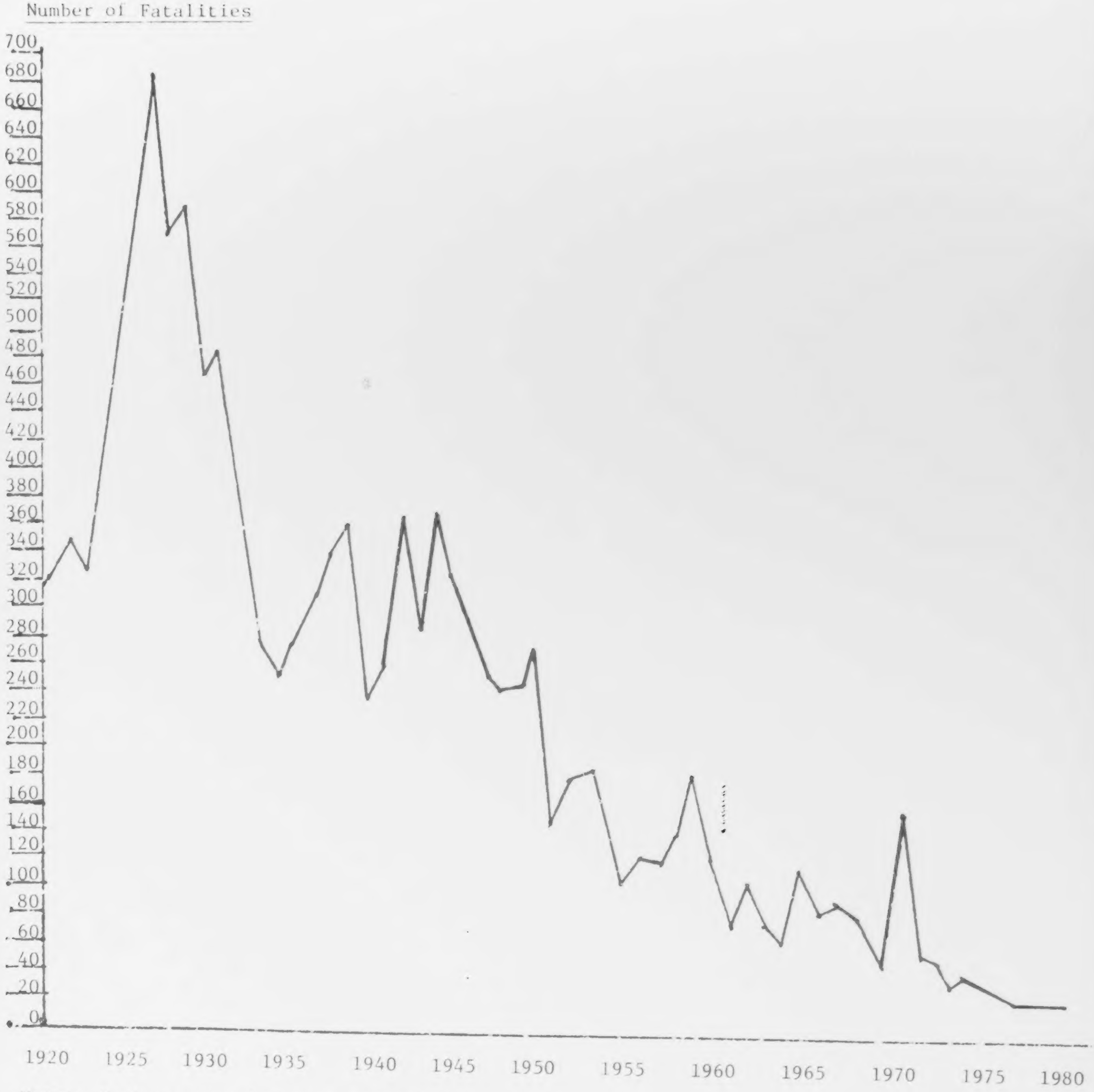
CAUSES	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948
Falls of Roof and Coal	167	173	209	186	140	173	171	169	165	186	157	149	131	130	161
Haulage.	63	86	77	99	56	48	69	73	86	65	91	74	68	75	60
Gas & Dust Explosives.	5	6	19	23	11	6	102	12	82	11	17	1	15	1	3
Explosives	3	2	4	6	5	3	5	4	3	6	4	7	3	5	6
All Other Causes	40	44	28	53	27	36	29	32	44	57	44	38	26	43	47
TOTALS	278	311	337	367	239	266	376	290	380	325	313	269	243	254	227

CAUSES	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963
Falls of Roof and Coal	81	97	79	96	72	68	72	80	68	61	51	66	41	39	55
Haulage.	44	54	44	41	30	21	26	39	28	21	19	12	14	15	23
Gas & Dust Explosives.	--	--	34	1	1	18	3	1	48	39	1	3	3	3	22
Explosives	6	6	--	2	2	3	2	4	--	1	--	--	--	2	2
All Other Causes	20	28	34	23	8	19	22	23	40	26	15	34	26	18	24
TOTALS	151	185	191	163	113	129	125	147	184	148	86	115	84	77	126

CAUSES	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Falls of Roof and Coal	48	53	40	28	30	27	29	16	13	19	16	12	7	13	11
Haulage.	15	10	15	10	15	17	11	9	11	9	5	11	5	4	2
Gas & Dust Explosives.	3	4	8	2	79	--	1	--	5	--	--	--	--	--	--
Explosives	--	--	--	--	1	--	1	--	1	--	--	--	--	2	1
All Other Causes	19	26	18	20	27	25	21	16	18	13	15	11	20	9	15
TOTALS	85	93	81	60	152	69	63	41	48	41	36	34	32	28	29

*Source: West Virginia Department of Mines - Annual Report 1978.

WEST VIRGINIA COAL MINING FATALITIES 1920-1978



Note: Each consecutive year plotted.

DISTRIBUTION OF WEST VIRGINIA COAL
BY MODE OF TRANSPORTATION & METHOD OF PRODUCTION 1963-1978

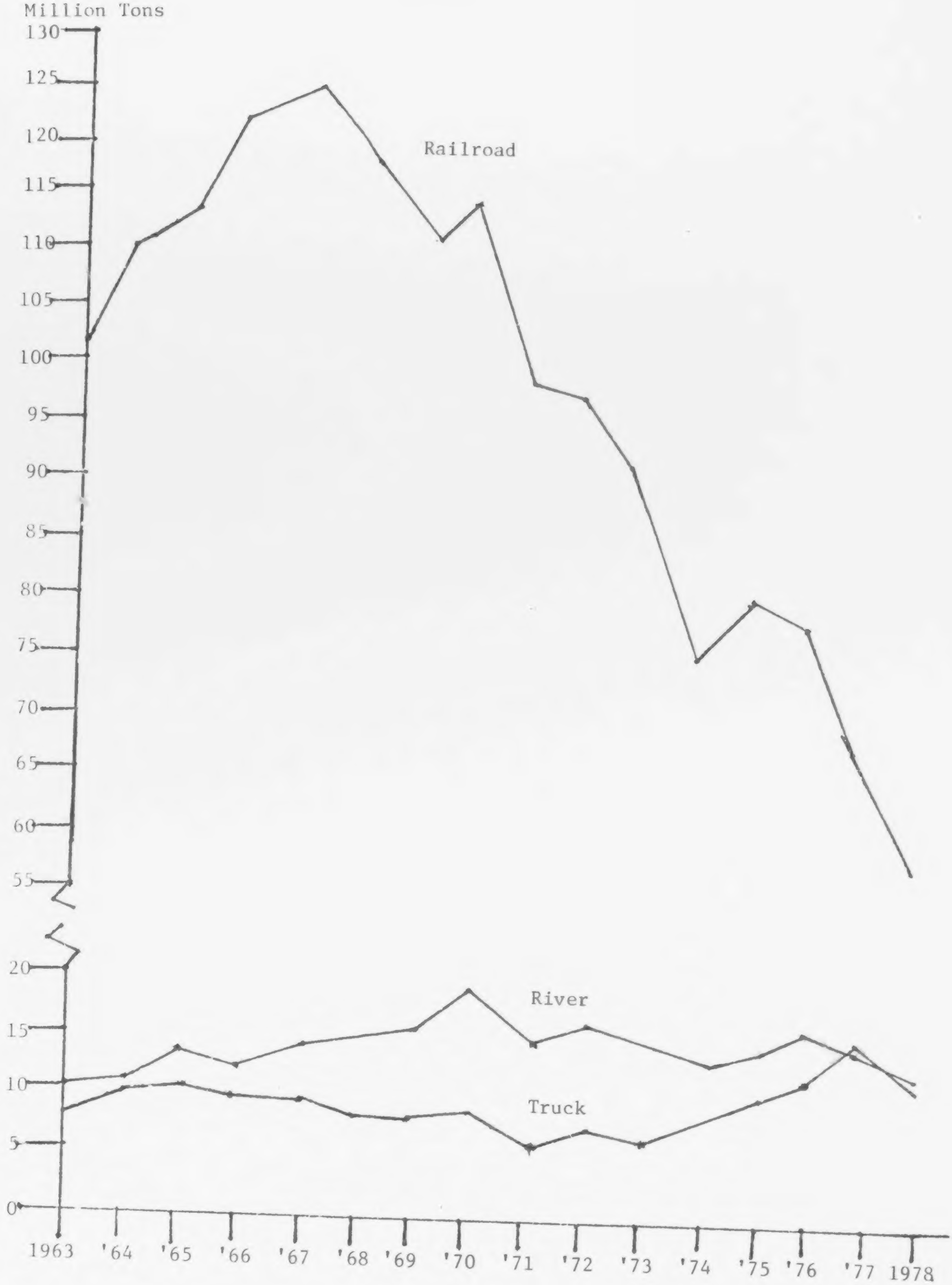
	Coal Shipped by Railroad	Coal Shipped by River	Coal Shipped by Truck	Local Trade and Stocked
1963				
Underground Mines	93,498,266	9,773,246	7,179,496	2,091,558
Surface Mines	7,806,194	672,675	971,683	37,319
1963 TOTAL	101,304,460	10,445,921	8,151,179	2,128,877
1964				
Underground Mines	101,122,267	10,152,245	8,493,869	2,882,863
Surface Mines	9,603,435	1,269,296	141,131	29,657
1964 TOTAL	110,725,702	11,421,541	9,905,200	2,912,520
1965				
Underground Mines	110,263,917	11,780,367	8,802,909	2,521,870
Surface Mines	11,487,984	1,759,461	1,736,224	28,045
1965 TOTAL	112,751,901	13,539,828	10,539,133	2,549,915
1966				
Underground Mines	112,747,467	10,189,609	7,450,748	2,469,100
Surface Mines	11,740,204	2,705,428	1,364,948	49,225
1966 TOTAL	124,487,671	12,895,037	8,815,696	2,518,325
1967				
Underground Mines	113,257,477	12,737,257	6,622,917	2,831,685
Surface Mines	12,179,996	1,722,839	2,568,222	83,627
1967 TOTAL	125,457,573	14,460,096	9,191,139	2,915,312
1968				
Underground Mines	105,375,039	14,186,539	5,946,161	2,580,240
Surface Mines	13,211,214	1,102,947	2,189,448	53,843
1968 TOTAL	118,586,253	15,289,486	8,135,609	2,634,083
1969				
Underground Mines	97,476,361	15,019,633	5,010,529	1,094,829
Surface Mines	14,496,070	1,501,556	2,675,524	192,291
1969 TOTAL	111,972,431	16,521,189	7,686,053	1,287,120
1970				
Underground Mines	94,422,027	17,005,933	4,558,030	449,167
Surface Mines	20,832,746	2,541,374	3,530,811	284,045
1970 TOTAL	115,254,773	19,547,307	8,088,841	733,212
1971				
Underground Mines	78,392,118	13,377,235	3,466,086	329,908
Surface Mines	20,317,420	2,492,766	2,863,378	287,029
1971 TOTAL	98,709,538	15,870,001	6,329,464	616,937

DISTRIBUTION OF WEST VIRGINIA COAL
BY MODE OF TRANSPORTATION & METHOD OF PRODUCTION 1963-1978
(Continued)

	Coal Shipped by Railroad	Coal Shipped by River	Coal Shipped by Truck	Local Trade and Stocked
1972				
Underground Mines	81,655,703	14,879,871	3,932,998	545,388
Surface Mines	15,819,653	2,330,010	3,620,918	43,501
1972 TOTAL	97,475,356	17,209,881	7,553,916	588,889
1973				
Underground Mines	76,265,237	13,956,061	4,565,499	692,146
Surface Mines	15,310,401	1,808,108	2,689,029	27,864
1973 TOTAL	91,575,638	15,764,169	7,254,528	720,010
1974				
Underground Mines	62,477,361	12,062,955	4,329,508	2,177,821
Surface Mines	12,120,422	2,075,714	3,967,112	223
1974 TOTAL	74,597,783	14,138,669	8,296,620	2,178,044
1975				
Underground Mines	65,614,164	12,556,557	6,736,295	2,228,766
Surface Mines	13,788,051	2,381,532	4,559,775	-0-
1975 TOTAL	79,402,215	14,938,089	11,296,070	2,228,766
1976				
Underground Mines	63,660,780	12,510,472	7,602,626	1,857,035
Surface Mines	12,765,330	2,572,313	5,075,242	19,776
1976 TOTAL	76,426,110	15,082,785	12,677,868	1,876,811
1977				
Underground Mines	52,011,307	11,358,724	7,878,059	1,648,737
Surface Mines	12,500,730	2,188,366	6,501,388	384,851
1977 TOTAL	64,511,767	13,547,090	14,379,447	2,033,588
1978				
Underground Mines	44,464,545	9,504,396	7,151,744	3,449,361
Surface Mines	11,794,354	1,998,769	5,274,133	22,824
1978 TOTAL	56,258,899	11,503,155	12,425,877	3,472,185

*Source: West Virginia Department of Mines, Annual Reports 1963-1978.

WEST VIRGINIA COAL SHIPMENTS BY MODE OF TRANSPORTATION



COAL LOADED FOR SHIPMENT BY RAILROAD IN WEST VIRGINIA

(Thousand Tons)

Railroad Company	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Baltimore and Ohio	30,182.0	28,497	27,515	24,097	21,985	19,508	15,268	16,721	14,121	28,273	14,150
Chesapeake and Ohio	37,827.0	40,082	40,522	40,025	39,337	40,820	34,277	31,537	30,925	12,519	29,061
Monongahela	8,202.0	8,849	10,321	9,896	7,286	7,302	6,339	7,574	6,899	6,851	7,193
Norfolk and Western	42,990.0	42,556	43,838	39,574	37,293	38,102	30,718	32,294	28,228	24,011	26,919
Penn Central			5,001	5,280	6,432	5,174	4,371	3,914	6,337	4,091	3,841
Western Maryland	6,047.0	6,366	6,402	6,198	6,365	5,095	4,257	3,484	3,118	2,754	2,922
New York Central	4,725.0	4,713									
Pennsylvania	5.8										

Source: *Minerals Yearbook*, U. S. Bureau of Mines.

COAL LOADED FOR SHIPMENT BY WATER IN WEST VIRGINIA

(Thousand Tons)

River	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975
Kanawha	5,485.0	6,251.00	5,460	5,249	5,571	6,105	3,957	4,679	3,764	3,740	3,270
Monongahela	6,599.0	5,608.00	6,878	6,030	7,851	10,113	7,876	9,242	8,231	7,136	7,128
Ohio	911.0	1,394.00	2,500	3,340	2,654	7,062	3,212	3,691	3,550	3,393	3,473
Guyandotte	7.5	5.76									

*Source: Minerals Yearbook, U. S. Bureau of Mines.

COAL CONSUMPTION IN WEST VIRGINIA BY SECTOR
1970 - 1977
(Tons)

	1970	1971	1972	1973	1974	1975	1976	1977
Electric Utilities	14,329,000	16,361,000	20,582,000	22,502,000	24,028,000	26,336,000	28,115,000	29,050,00
Coke and Gas Plants	5,080,000	4,323,000	5,044,000	5,196,000	5,107,000	4,481,000	5,295,000	4,975,00
Manufacturing	4,760,000	4,586,000	4,392,000	4,364,000	4,322,000	3,385,000	2,960,000	2,995,00
Retail	226,000	239,000	271,000	243,000	327,000	158,000	110,000	100,00
Total	24,394,000	25,509,000	30,289,000	32,305,000	33,784,000	34,360,000	36,480,000	37,120,00

*Source: U.S. Bureau of Mines - Bituminous Coal and Lignite Distribution.

AVERAGE COAL PRICES, WEST VIRGINIA AND THE UNITED STATES
(1968-1977)

	West Virginia				
	Underground Mined Coal	Surface Mined Coal	Auger Mined Coal	Average All W. Va. Coal	Average All U.S. Coal
1968	$ 5.46	$ 4.31	$ 4.06	$ 5.32	$ 4.67
1969	5.90	4.77	4.61	5.73	4.99
1970	8.70	7.06	8.34	7.93	6.26
1971	10.07	7.49	8.53	9.54	7.07
1972	10.90	7.54	7.95	10.31	7.66
1973	12.24	8.58	8.66	11.61	8.53
1974	21.76	22.46	21.74	21.65	15.75

	West Virginia					
	Underground Mined Coal	Surface Mined Coal	Auger Mined Coal	*Surface & Auger Mined Coal	Average All W. Va. Coal	Average All U.S. Coal
1975	$23.55	$22.00	$21.74	$16.34	$23.00	$18.75
1976	31.64	23.86	1/	1/	30.12	19.43
2/ 1977	33.60	27.30	1/	1/	33.00	20.50

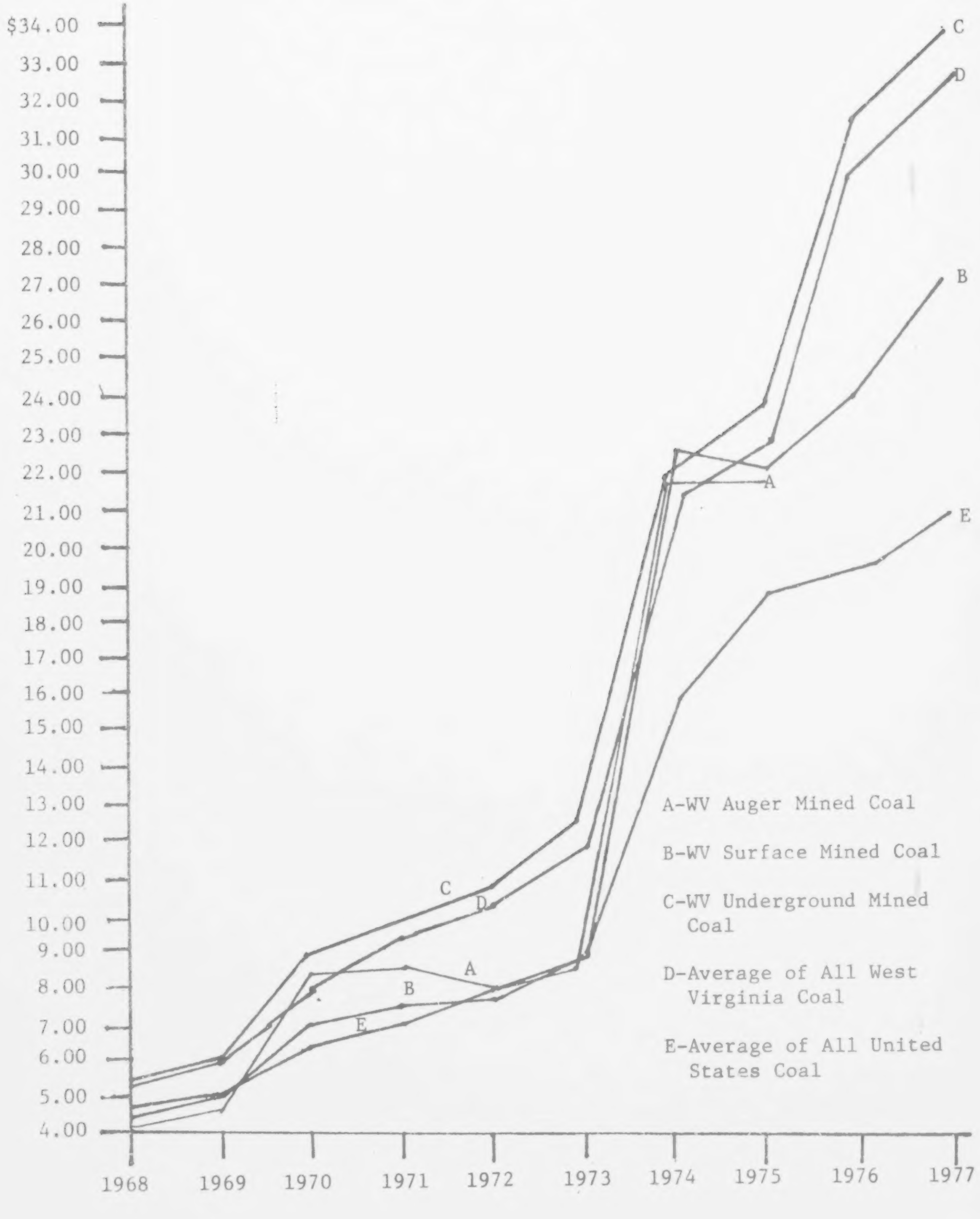
*Note: The classification Surface and Auger Mined Coal was added in 1975. The coal produced in 1975 under this category was 4,070,000 tons.

1/ Data not available.

2/ Preliminary Estimate.

Source: U. S. Bureau of Mines.

AVERAGE COAL PRICES, WEST VIRGINIA AND UNITED STATES
(1968-1977)



WEST VIRGINIA COAL RESERVES

COUNTIES	ORIGINAL MINEABLE RESERVES* Short Tons	REPORTED PRODUCTION 1883-1978*** (INCLUSIVE) Short Tons	ESTIMATED LOSS IN MINING** Short Tons	ESTIMATED RECOVERABLE RESERVE Short Tons
Barbour........	3,585,619,298	173,385,243	173,385,243	1,619,424,406
Berkeley.......	-	246	246	-
Boone..........	8,142,970,465	344,963,442	229,975,628	4,540,818,837
Braxton........	2,323,332,633	9,768,932	9,768,932	1,151,897,385
Brooke.........	360,000,000	91,291,911	91,291,911	88,708,089
Cabell.........	44,167,156	-	-	22,083,578
Calhoun........	251,017,114	-	-	125,508,557
Clay...........	3,237,869,854	43,507,832	29,005,221	1,899,214,081
Doddridge......	1,119,317,757	2,790	1,860	671,587,864
Fayette........	4,420,505,039	715,717,838	477,145,225	1,936,585,186
Gilmer.........	1,019,245,455	13,224,013	13,224,013	496,398,714
Grant..........	969,014,155	34,845,650	23,230,433	546,562,843
Greenbrier.....	1,220,293,321	77,197,993	51,465,328	654,978,000
Hancock........	500,000,000	3,340,986	3,340,986	246,659,014
Harrison.......	2,172,730,581	469,297,273	469,297,273	617,068,017
Kanawha........	5,901,324,612	595,668,912	397,112,608	2,945,125,855
Lewis..........	2,776,037,160	16,824,293	16,824,293	1,371,194,287
Lincoln........	1,770,813,665	4,889,123	3,259,415	1,057,599,076
Logan..........	8,149,879,105	1,029,215,008	686,143,338	3,860,712,455
Marion.........	4,317,089,326	611,387,455	611,387,455	1,547,157,208
Marshall.......	4,448,857,374	133,417,533	133,417,533	2,091,011,154
Mason..........	339,976,480	17,614,855	17,614,855	152,373,385
McDowell.......	5,340,598,171	1,379,274,807	919,516,538	1,825,084,096
Mercer.........	506,829,312	200,669,523	133,779,682	103,428,064
Mineral........	809,834,066	35,319,052	35,319,052	369,597,981
Mingo..........	6,332,263,181	331,324,096	220,882,730	3,468,033,813
Monongalia.....	3,748,630,971	510,878,782	510,878,782	1,363,436,704
Nicholas.......	6,172,807,449	181,388,087	120,925,391	3,522,296,383
Ohio...........	910,000,000	112,160,264	112,160,264	342,839,736
Pleasants......	-	82,429	54,953	-
Pocahontas.....	508,644,743	5,336,236	3,557,491	299,850,610
Preston........	3,212,323,508	138,843,012	138,843,012	1,467,318,742
Putnam.........	433,090,336	21,620,592	14,413,728	238,233,610
Raleigh........	4,283,368,282	697,075,193	464,716,795	1,872,945,776
Randolph.......	4,183,643,819	70,039,664	46,693,109	2,440,146,628
Roane..........	674,768,793	-	-	404,861,276
Summers........	18,678,528	360,741	240,494	10,846,375
Taylor.........	1,327,673,239	49,157,201	49,157,201	614,679,418
Tucker.........	486,964,209	59,567,604	59,567,604	183,914,500
Tyler..........	948,133,232	-	-	474,066,616
Upshur.........	3,554,551,754	45,818,194	45,818,194	1,731,457,683
Wayne..........	1,471,495,778	10,549,358	7,032,905	872,348,109
Webster........	6,305,536,510	42,691,611	28,461,074	3,740,630,295
Wetzel.........	3,321,923,236	93,425	93,425	1,660,868,193
Wirt...........	22,302,720	-	-	11,151,360
Wyoming........	5,061,292,844	394,618,327	263,078,884	2,642,157,380
Small Mines....	-	25,028,400	25,028,400	-50,000,000
TOTALS....	116,705,415,231	8,697,457,926	6,637,111,504	57,252,861,339

*Estimate by W. Va. Geological Survey using One Foot as the Minimum Mineable Thickness.
**Loss resulting from the undermining of a coal bed not included.
***Includes 1977 Delinquent Production.

Source: West Virginia Department of Mines - Annual Report 1978.

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons

County	Seam	Mineable Quantity* in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Barbour	Redstone	23.55	8.80	32.25	3.0	104		Yes
	Pittsburgh	81.07	51.80	132.87	3.2	361		Yes
	Elk Lick	33.93	.00	33.93	NA**	0		No
	Bakerstown	24.24	7.16	31.40	3.0	43		No
	Upper Freeport	104.64	11.52	116.16	2.6	3		No
	Upper Kittanning	165.17	12.36	177.53	2.2	4		Yes
	Clarion	9.12	2.32	11.44	NA	0		No
	Upper Mercer	159.70	13.16	172.86	NA	0		No
	928	347.34	20.48	367.82	NA	0		No
	Total			1,076.36		515	2.67	
Boone	Lower Kittanning	.00	112.09	112.09	.8	83		Yes
	Stockton-Lewiston	57.42	103.68	161.10	.8	11		Yes
	Coalburg	45.31	91.12	136.43	.7	27		No
	Winifrede	347.79	107.24	455.03	.7	88		Yes
	Chilton	187.40	29.48	216.88	.8	27		Yes
	Hernshaw	289.70	53.12	342.82	1.0	31		Yes
	Williamson	11.50	.00	11.50	1.5	3		No
	Cedar Grove	241.89	19.96	261.85	1.2	72		Yes
	Alma	317.81	23.16	340.97	2.0	28		No
	Campbells Creek	332.97	32.48	365.45	1.4	25		Yes
	Powellton	9.93	4.92	14.85	.7	3		Yes
	Eagle	27.13	2.32	29.45	.8	10		No
	Total			2,448.42		480	1.1	

* Mineable Quantity - Only seams greater than 28 inches thick are considered mineable.
**NA - Not Available.

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Braxton	Pittsburgh	50.37	55.92	106.29	2.4	25		No
	Bakerstown	9.58	.00	9.58	1.6	1		No
	Upper Freeport	36.35	.00	36.35	2.5	1		No
	Lower Freeport	7.56	.00	7.56	NA	0		No
	Upper Kittanning	35.64	24.72	60.36	.7	3		No
	Middle Kittanning	12.22	.00	12.22	.7	1		No
	Lower Kittanning	203.68	18.24	221.92	1.1	3		No
	Stockton-Lewiston	61.82	.00	61.82	NA	0		No
	Cedar Grove	12.33	.00	12.33	NA	0		No
	Eagle	29.52	1.16	30.68	3.6	1		No
	Sewell	8.66	.00	8.66	NA	0		No
	Total			567.77		35	1.6	
Brooke	Waynesburg	.00	11.15	11.15	NA	0		No
	Pittsburgh	131.15	20.60	151.75	2.6	44		Yes
	Bakerstown	5.20	.00	5.20	NA	0		No
	Mahoning	7.77	.00	7.77	NA	0		No
	Lower Freeport	8.67	.00	8.67	NA	0		No
	Upper Kittanning	8.67	.00	8.67	NA	0		No
	Lower Kittanning	7.80	.00	7.80	NA	0		No
	Total			201.01		44	2.6	
Cabell	Pittsburgh	.00	22.24	22.24	NA	0		No
	Total			22.24		0		
Calhoun	Washington	.33	.88	1.21	1.5	3		No
	Pittsburgh	.00	3.10	3.10	3.4	2		No
	Total			4.31		5	2.8	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County Deep	Strip	Total	Average Sulfur Content per Seam %	Number of Analysis	Weighted Average Sulfur Content per County %	Seam Actively Mined
Clay	Pittsburgh	5.02	7.96	12.98	NA	0		No
	Lower Freeport	2.95	.00	2.95	NA	0		No
	Upper Kittanning	77.54	47.36	124.90	1.8	8		Yes
	Middle Kittanning	73.72	33.76	107.48	.9	10		No
	Lower Kittanning	227.16	42.24	269.40	.7	80		No
	Clarion	24.29	.00	24.29	.8	4		No
	Stockton-Lewiston	101.75	.00	101.75	NA	0		No
	Coalburg	157.10	16.92	174.02	.8	17		No
	Winifrede	14.93	.00	14.93	NA	0		No
	Eagle	10.56	.00	10.56	NA	0		No
	Total			843.26		119	0.95	
Doddridge	Uniontown	9.19	.00	9.19	4.8	2		No
	Pittsburgh	239.22	.00	239.22	NA	0		No
	Total			248.41		2	4.8	
Fayette	Middle Kittanning	.80	2.08	2.88	NA	0		Yes
	Lower Kittanning	.94	18.64	19.58	.7	10		No
	Stockton-Lewiston	4.88	15.12	20.00	NA	0		Yes
	Coalburg	3.37	28.48	31.85	.8	14		No
	Winifrede	14.65	6.44	21.09	NA	0		No
	Chilton	24.52	7.24	31.76	NA	0		No
	Cedar Grove	12.10	10.00	22.10	NA	0		No
	Alma	27.69	10.40	38.09	.7	1		Yes
	Peerless	2.10	.00	2.10	2.2	1		Yes
	Campbells Creek	220.80	68.44	289.24	.8	66		Yes
	Powellton	65.09	19.08	84.17	.8	33		Yes
	Eagle	94.92	34.64	129.56	.8	940		Yes

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Fayette (cont.)	Little Eagle	38.83	1.56	40.39	.7	10		Yes
	Glenalum Tunnel	6.99	.00	6.99	.6	2		No
	Gilbert	5.83	.00	5.83	.9	2		No
	Douglas	5.98	.00	5.98	NA	0		No
	Sewell	171.47	24.72	196.19	.7	429		Yes
	Fire Creek	71.54	15.16	86.70	.8	110		Yes
	Poca No. 6	23.76	7.24	31.00	.8	14		No
	Poca No. 3	.00	6.25	6.25	1.4	2		No
	Total			1,071.75		1,634	.77	
Gilmer	Pittsburgh	154.12	15.36	169.48	2.4	106		Yes
	Total			169.48		106	2.4	
Grant	Pittsburgh	.04	.20	.24	NA	0		No
	Little Pittsburgh	.10	.00	.10	1.0	1		No
	Elk Lick	12.58	.00	12.58	4.2	2		No
	Bakerstown	72.31	7.20	79.51	1.5	15		Yes
	Upper Freeport	228.20	6.92	235.12	1.4	8		Yes
	Total			327.55		26	1.53	
Greenbrier	Sewell	46.63	11.80	58.43	1.1	933		Yes
	Little Raleigh	18.40	3.48	21.88	NA	0		No
	Beckley	17.06	4.76	21.82	1.3	11		Yes
	Fire Creek	100.87	10.57	111.39	.9	143		Yes
	Poca No. 6	75.81	9.28	85.09	.8	19		No
	Poca No. 3	10.93	.00	10.93	.8	3		No
	Total			309.54		1,109	.94	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Hancock	Pittsburgh	.93	1.08	2.01	3.3	3		No
	Brush Creek	18.33	1.36	19.69	NA	0		No
	Mahoning	17.89	1.80	19.69	3.3	5		No
	Lower Freeport	59.31	1.88	61.19	3.8	5		No
	Middle Kittanning	17.77	1.92	19.69	5.9	1		No
	Lower Kittanning	18.16	2.00	20.16	3.8	3		No
	Total			142.43		17	4.05	
Harrison	Redstone	5.23	11.64	16.87	2.6	25		Yes
	Pittsburgh	335.06	51.08	386.14	3.1	2,448		Yes
	Harlem	.27	.00	.27	2.9	5		No
	Upper Kittanning	40.33	.00	40.33	2.4	1		No
	Total			443.61		2,479	3.02	
Kanawha	Pittsburgh	43.82	40.80	84.62	2.0	19		No
	Stockton-Lewiston	321.77	134.88	456.65	.8	73		Yes
	Coalburg	28.79	96.96	125.75	.8	32		Yes
	Winifrede	.00	85.50	85.50	.7	218		Yes
	Hernshaw	1.55	.36	1.91	NA	0		Yes
	Cedar Grove	93.80	9.32	103.12	.8	93		No
	Peerless	74.35	.00	74.35	1.9	7		No
	Campbells Creek	298.76	23.80	322.56	1.1	34		Yes
	Powellton	18.27	2.52	20.79	.7	17		Yes
	Eagle	46.06	4.36	50.42	.8	16		Yes
	928	193.45	165.00	358.45	NA	0		No
	Total			1,684.12		509	1.0	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Lewis	Washington	3.24	.00	3.24	NA	0		No
	Redstone	221.55	46.60	268.15	3.3	35		Yes
	Pittsburgh	254.05	24.40	278.45	3.3	89		Yes
	Barton	94.46	12.32	106.78	2.1	5		No
	Bakerstown	47.69	.00	47.69	4.6	3		No
	Upper Kittanning	42.80	2.64	45.44	3.3	2		No
	Lower Kittanning	66.51	3.36	69.87	.9	7		No
	Total			819.62		141	3.0	
Lincoln	Upper Freeport	11.99	12.92	24.91	NA	0		No
	Lower Kittanning	105.97	61.76	167.73	NA	0		No
	Stockton-Lewiston	129.03	8.20	137.23	2.1	1		No
	Campbells Creek	113.44	.00	113.44	.8	1		No
	Total			443.31		2	1.51	
Logan	Lower Kittanning	34.98	115.80	150.78	.7	333		Yes
	Stockton-Lewiston	68.81	109.54	178.35	.5	2		Yes
	Coalburg	96.08	154.68	250.76	.8	5		Yes
	Winifrede	134.19	.00	134.19	1.5	207		Yes
	Chilton A	.05	.00	.05	NA	0		No
	Chilton	195.49	54.05	249.54	.7	177		Yes
	Hernshaw	113.08	.00	113.08	NA	0		No
	Dingess	90.78	.00	90.78	.8	2		No
	Williamson	142.18	.00	142.18	.6	1		Yes
	Cedar Grove	503.27	70.84	574.11	1.3	1,791		Yes
	Lower Cedar Grove	126.18	16.66	142.84	.6	10		Yes
	Alma	732.29	.00	732.29	1.7	342		No
	Campbells Creek	800.85	35.94	836.79	.7	28		Yes

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Logan (cont.)	Powellton	.82	.00	.82	.7	10		Yes
	Eagle	24.82	.00	24.82	.9	117		No
	Bens Creek	8.88	.00	8.88	NA	0		No
	Little War Eagle	3.51	.00	3.51	.8	1		No
	Total			3,633.77		3,026	1.03	
McDowell	Williamson	.12	.00	.12	NA	0		No
	Cedar Grove	.75	.00	.75	NA	0		No
	Lower Cedar Grove	.84	.00	.84	.8	1		No
	Alma	.80	.00	.80	NA	0		No
	Campbells Creek	.43	3.44	3.87	NA	0		No
	Powellton	.77	.00	.77	NA	0		No
	Matewan	2.87	.00	2.87	NA	0		No
	Eagle	12.82	29.90	42.72	1.2	15		Yes
	Bens Eagle	6.75	.00	6.75	NA	0		No
	Little Eagle	7.27	7.12	14.39	NA	0		No
	Cedar	6.02	.00	6.02	NA	0		No
	Little War Eagle	14.54	.00	14.54	NA	0		No
	Glenalum Tunnel	6.62	.00	6.62	NA	0		No
	Gilbert	16.14	.00	16.14	NA	0		Yes
	Douglas	26.10	.00	26.10	1.1	842		Yes
	Lower Douglas	23.82	.00	23.82	NA	0		No
	Iaeger	45.34	.00	45.34	.8	17		Yes
	Sewell B	7.06	.00	7.06	NA	0		No
	Sewell	51.48	63.34	114.82	.6	501		Yes
	Welch	.00	37.19	37.19	.7	42		Yes
	Little Raleigh	1.28	.00	1.28	NA	0		No
	Beckley	123.72	30.80	154.52	.7	523		Yes

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
McDowell (cont.)	Fire Creek	54.89	.00	54.89	.9	19		No
	Little Fire Creek	10.73	.00	10.73	NA	0		Yes
	Pocahontas No. 9	.00	21.72	21.72	.7	3		No
	Pocahontas No. 7	.00	.17	.17	.7	1		No
	Pocahontas No. 6	10.41	.00	10.41	.8	15		No
	Pocahontas No. 5	2.74	6.80	8.54	.6	9		No
	Pocahontas No. 4	236.54	77.62	314.16	.6	70		Yes
	Pocahontas No. 3	241.10	45.67	286.77	.6	127		Yes
	Pocahontas No. 2	.40	.00	.40	NA	0		Yes
	Total			1,236.12		2,185	.68	
Marion	Washington	25.05	.00	25.05	2.8	2		No
	Waynesburg	313.25	42.60	355.85	2.4	4		No
	Sewickley	989.71	21.10	1,010.81	4.1	22		No
	Redstone	1.56	.00	1.56	NA	0		No
	Pittsburgh	1,022.93	24.19	1,047.12	1.8	438		Yes
	Upper Freeport	31.44	9.58	41.02	NA	0		No
	Upper Kittanning	21.35	6.37	27.72	NA	0		No
	Lower Kittanning	194.17	11.42	205.59	1.9	3		Yes
	Total			2,714.72		469	2.78	
Marshall	Washington	60.44	.00	60.44	NA	0		No
	Waynesburg	142.60	.00	142.60	3.6	5		No
	Sewickley	916.06	.00	916.06	3.8	11		No
	Pittsburgh	1,924.67	.98	1,925.65	4.6	40		Yes
	Total			3,044.75		56	2.97	
Mason	Pittsburgh	115.39	2.48	117.87	3.0	70		Yes
	Little Pittsburgh	1.27	.00	1.27	NA	0		No
	Total			119.14		70	3.00	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Mercer	Sewell	.53	.00	.53	NA	0		Yes
	Snake Root	1.14	.00	1.14	NA	0		No
	Beckley	1.33	.00	1.33	NA	0		Yes
	Fire Creek	.87	.00	.87	.6	4		Yes
	Pocahontas No. 9	5.77	.00	5.77	NA	0		No
	Pocahontas No. 6	7.79	10.50	18.29	.8	18		Yes
	Pocahontas No. 3	21.09	6.20	27.29	.7	88		Yes
	Pocahontas No. 2	.13	8.40	8.53	1.1	1		No
	Total			63.75		111	.79	
Mineral	Sewickley	.65	.00	.65	NA	0		No
	Redstone	.27	1.32	1.59	NA	0		No
	Pittsburgh	15.08	.00	15.08	.9	8		Yes
	Little Clarksburg	6.83	.00	6.83	NA	0		No
	Elk Lick	18.82	.00	18.82	2.7	26		Yes
	Harlem	4.70	.00	4.70	2.3	1		No
	Upper Bakerstown	26.91	4.68	31.59	NA	0		No
	Bakerstown	35.84	4.56	40.40	.8	28		Yes
	Mahoning	31.72	2.40	34.12	1.1	8		No
	Upper Freeport	65.06	3.20	68.26	2.1	12		No
	Upper Kittanning	1.23	.00	1.23	2.2	3		No
	Lower Kittanning	11.36	.00	11.36	2.1	2		No
	Total			234.63		88	1.62	
Mingo	Lower Kittanning	.74	5.36	6.10	NA	0		No
	Stockton-Lewiston	29.80	43.56	73.36	.6	1		Yes
	Coalburg	199.05	187.17	386.22	.7	24		Yes
	Little Coalburg	7.43	.00	7.43	NA	0		No

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Mingo (cont.)	Buffalo Creek	35.79	23.11	58.90	.9	4		No
	Winifrede	7.78	1.30	9.08	.7	59		Yes
	Chilton A	50.34	.00	50.34	.7	2		No
	Chilton	100.15	20.59	120.74	1.1	3		Yes
	Hernshaw	19.73	.00	19.73	NA	0		No
	Dingess	37.57	.00	37.57	2.1	2		No
	Williamson	128.58	32.42	161.00	2.1	4		No
	Cedar Grove	592.92	70.20	663.12	1.2	751		Yes
	Lower Cedar Grove	44.78	8.86	53.64	.8	11		Yes
	Alma	332.50	41.80	374.30	.6	26		Yes
	Campbells Creek	146.08	10.26	156.34	1.0	256		Yes
	Eagle	67.77	.00	67.77	1.2	8		Yes
	Bens Creek	34.93	.00	34.93	NA	0		No
	Cedar	26.08	.00	26.08	1.1	1		No
	Little War Eagle	8.63	.00	8.63	1.1	1		No
	Glenalum Tunnel	16.80	.00	16.80	NA	0		No
	Total			2,332.08		1,153	1.04	
Monongalia	Washington	44.97	.00	44.97	2.4	9		No
	Waynesburg	544.90	22.79	567.69	2.0	13		No
	Sewickley	848.90	28.60	877.50	2.6	605		Yes
	Redstone	45.84	25.80	71.64	2.1	119		No
	Pittsburgh	1,342.14	41.30	1,383.44	2.9	1,659		Yes
	Upper Freeport	135.13	15.30	150.43	1.2	33		No
	Upper Kittanning	13.39	2.11	15.58	1.8	3		No
	Lower Kittanning	33.54	6.03	39.57	2.0	13		Yes
	Total			3,150.74		2,454	2.53	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Nicholas	Lower Freeport	4.46	5.36	9.82	.8	1		No
	Upper Kittanning	33.18	39.28	72.46	1.0	7		Yes
	Middle Kittanning	68.25	24.64	92.89	1.6	6		Yes
	Lower Kittanning	125.86	61.48	187.34	.8	94		Yes
	Clarion	26.59	25.48	52.07	1.1	2		No
	Stockton-Lewiston	75.56	.00	75.56	2.6	2		No
	Coalburg	155.95	32.60	188.55	1.0	31		Yes
	Winifrede	97.48	.00	97.48	.8	5		Yes
	Chilton	63.76	.00	63.76	NA	0		No
	Cedar Grove	.05	.00	.05	NA	0		No
	Alma	23.55	.00	23.55	1.9	3		No
	Peerless	116.46	7.60	124.06	.9	44		Yes
	Campbells Creek 2	91.99	12.24	104.23	1.0	11		Yes
	Eagle	194.99	17.84	212.83	.7	31		Yes
	Little Eagle	45.82	.00	45.82	.7	3		No
	Gilbert	30.31	2.96	33.27	1.5	10		Yes
	Sewell	236.86	8.20	245.06	.8	50		Yes
	Fire Creek	42.57	.00	42.57	.7	3		No
	Total			1,671.37		303	1.0	
Ohio	Washington	17.68	16.00	33.68	10.0	1		No
	Waynesburg	8.21	4.97	13.18	3.1	6		No
	Sewickley	54.27	.00	54.27	NA	0		No
	Pittsburgh	273.29	14.40	287.69	3.8	29		Yes
	Lower Freeport	25.60	.00	25.60	NA	0		No
	Total			414.42		36	4.4	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Pocahontas	Gilbert	8.16	5.60	13.76	.8	1		No
	Iaeger	50.03	11.92	61.95	.7	1		No
	Sewell	73.40	14.40	87.80	.7	71		No
	Total			163.51		73	.71	
Preston	Pittsburgh	5.24	1.60	6.84	1.4	7		Yes
	Elk Lick	14.45	.00	14.45	3.2	2		No
	Bakerstown	48.68	.00	48.68	1.9	418		Yes
	Upper Freeport	221.05	41.36	262.41	2.0	458		Yes
	Lower Freeport	54.40	.00	54.40	3.8	3		No
	Upper Kittanning	141.79	.00	141.79	2.3	15		No
	Middle Kittanning	.08	.00	.08	3.8	2		No
	Lower Kittanning	246.32	.00	246.32	2.0	319		No
	Clarion	102.52	.00	102.52	2.0	5		No
	Winifrede	2.95	.00	2.95	NA	0		No
	Total			880.44		1,229	2.16	
Putnam	Pittsburgh	141.41	5.16	146.57	3.0	43		No
	Little Pittsburgh	1.13	.00	1.13	NA	0		No
	Total			147.70		43	3.0	
Raleigh	Lower Kittanning	4.44	5.21	9.65	.7	9		No
	Stockton-Lewiston	2.09	5.00	7.09	NA	0		No
	Coalburg	7.20	.00	7.20	NA	0		No
	Winifrede	18.08	24.64	42.72	.8	27		No
	Lower Winifrede	9.63	.00	9.63	NA	0		No
	Little Chilton	28.89	.00	28.89	NA	0		No
	Hernshaw	35.76	10.30	46.06	1.3	4		No

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Raleigh (cont.)	Cedar Grove	3.79	.00	3.79	1.1	24		No
	Alma	54.84	18.08	72.92	.8	5		No
	Peerless	94.74	.00	94.74	NA	0		No
	Campbells Creek 2	150.65	46.70	197.35	1.0	20		Yes
	Powellton A	3.96	.00	3.96	NA	0		No
	Powellton	26.93	40.50	67.43	1.1	60		No
	Matewan	87.17	.00	87.17	NA	0		No
	Eagle	196.13	46.33	242.46	.8	39		Yes
	Little Eagle	36.55	21.32	57.87	.8	1		No
	Little War Eagle	72.23	5.68	77.91	1.2	8		No
	Gilbert	17.74	.00	17.74	.9	1		No
	Sewell	65.36	3.96	69.32	.9	125		Yes
	Beckley	334.13	66.78	400.91	.7	97		Yes
	Fire Creek	56.84	25.33	82.17	.8	51		Yes
	Pocahontas No. 8	1.15	.00	1.15	.8	1		No
	Pocahontas No. 6	15.61	2.47	18.08	.8	1		Yes
	Pocahontas No. 4	63.91	.00	63.91	.8	33		Yes
	Pocahontas No. 3	261.40	17.07	278.47	.8	103		Yes
	Pocahontas No. 2	7.12	.00	7.12	.9	2		Yes
	Total			1,995.71		611	.85	
Randolph	Bakerstown	1.68	.00	1.68	NA	0		No
	Upper Freeport	4.76	.80	5.56	NA	0		No
	Upper Kittanning	6.47	3.08	9.55	1.3	14		Yes
	Clarion	24.13	.76	24.89	1.9	1		No
	Upper Mercer	52.04	11.56	63.60	2.0	2		No
	Stockton-Lewiston	5.96	7.44	13.40	NA	0		No
	Winifrede	3.89	.00	3.89	NA	0		No
	Peerless	58.78	21.16	79.94	.8	24		Yes

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Randolph (cont.)	Eagle	49.62	.00	49.62	1.2	4		No
	Gilbert	22.80	11.44	34.24	.6	1		No
	Iaeger	62.53	.00	62.53	1.2	2		No
	Castle	72.76	.00	72.76	.9	2		No
	Sewell	308.12	29.84	337.96	.7	39		Yes
	Welch	35.68	2.00	37.68	.6	1		No
	Fire Creek	6.31	.00	6.31	.6	2		No
	928	41.66	25.68	67.34	1.4	9		No
	Total			870.95		101	.98	
Roane	Pittsburgh	10.81	3.88	14.69	2.1	4		No
	Bakerstown	8.60	.32	8.92	1.5	2		No
	Total			23.61		6	1.87	
Summers	Pocahontas No. 6	5.95	.56	6.51	.7	1		No
	Pocahontas No. 3	.00	2.64	2.64	NA	0		No
	Total			9.15		1	.7	
Taylor	Pittsburgh	25.40	18.64	44.04	2.2	258		Yes
	Upper Freeport	30.79	3.72	34.51	1.4	2		No
	Upper Kittanning	130.95	2.96	133.91	3.7	3		No
	Lower Kittanning	201.10	2.79	203.89	2.6	2		No
	Total			416.35		265	2.82	
Tucker	Little Pittsburgh	.06	.00	.06	1.0	1		No
	Bakerstown	25.80	3.20	29.00	.9	10		Yes
	Upper Freeport	63.87	5.76	69.63	1.2	137		No
	Sewell	31.22	.00	31.22	.9	11		No
	Total			129.91		159	1.06	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Tyler	Washington	30.91	.00	30.91	4.4	3		No
	Uniontown	48.73	.00	48.73	NA	0		No
	Total			79.64		3	4.4	
Upshur	Redstone	44.47	11.64	56.11	2.5	401		Yes
	Pittsburgh	13.76	3.04	16.80	3.5	16		Yes
	Elk Lick	34.38	2.16	36.54	2.6	8		No
	Upper Freeport	50.40	16.96	67.36	1.5	22		Yes
	Upper Kittanning	83.24	11.04	94.28	1.3	4		No
	Clarion	49.04	.00	49.04	NA	0		No
	Upper Mercer	143.92	13.28	157.20	1.2	2		No
	Stockton-Lewiston	22.84	5.12	27.96	.7	2		No
	Winifrede	18.08	.00	18.08	1.7	1		No
	Peerless	25.44	.00	25.44	NA	0		No
	Eagle	33.53	.00	33.53	NA	0		No
	Iaeger	25.63	.00	25.63	NA	0		No
	Castle	1.84	.00	1.84	NA	0		No
	Sewell	29.92	.00	29.92	NA	0		No
	928	300.38	38.20	338.58	NA	0		No
	Total			978.31		456	1.6	
Wayne	Pittsburgh	.00	16.16	16.16	NA	0		No
	Elk Lick	3.85	1.20	5.05	NA	0		No
	Upper Freeport	3.30	.00	3.30	NA	0		No
	Lower Kittanning	141.96	61.28	203.24	1.1	2		No
	Stockton-Lewiston	30.15	2.44	32.59	NA	0		No
	Campbells Creek 2	224.29	.00	224.29	NA	0		No
	Total			484.63		2	1.1	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Webster	Upper Freeport	8.39	.00	8.39	1.7	1		No
	Upper Kittanning	10.53	34.80	45.33	1.0	3		No
	Middle Kittanning	33.63	44.44	78.07	.9	1		No
	Lower Kittanning	70.42	67.24	137.66	1.4	2		No
	Upper Mercer	81.61	.00	81.61	1.6	1		No
	Stockton-Lewiston	92.33	44.04	136.37	1.0	3		No
	Coalburg	46.48	.00	46.48	1.3	1		No
	Winifrede	68.23	.00	68.23	NA	0		No
	Chilton	57.56	10.96	68.52	NA	0		Yes
	Cedar Grove	55.27	7.36	62.63	2.3	2		No
	Alma	4.02	.00	4.02	NA	0		No
	Peerless	57.99	.00	57.99	.9	10		No
	Eagle	160.78	30.64	191.42	3.9	13		No
	Gilbert	27.78	.00	27.78	5.1	1		No
	Iaeger	42.82	2.48	45.30	1.4	4		No
	Sewell	119.74	26.16	145.90	.6	179		Yes
	Welch	130.18	10.24	140.42	.6	6		No
	Fire Creek	31.08	3.44	34.52	.6	23		No
	Total			1,380.71		250	1.6	
Wetzel	Washington	66.98	.00	66.98	4.4	3		No
	Waynesburg	22.30	.00	22.30	NA	0		No
	Uniontown	13.01	.00	13.01	4.2	1		No
	Sewickley	158.15	.00	158.15	NA	0		No
	Pittsburgh	585.65	.00	585.65	NA	0		No
	Total			846.09		4	4.37	

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Wyoming	Lower Kittanning	.29	2.60	2.89	NA	0		No
	Stockton-Lewiston	.53	.71	1.24	NA	0		No
	Coalburg	1.29	1.21	2.50	NA	0		No
	Buffalo Creek	9.33	.00	9.33	NA	0		No
	Winifrede	16.26	.00	16.26	.8	596		No
	Chilton	16.97	7.65	24.62	.9	1		No
	Little Chilton	.46	.00	.46	NA	0		No
	Hernshaw	11.93	.00	11.93	NA	0		Yes
	Williamson	8.65	.18	8.83	NA	0		No
	Cedar Grove	54.32	18.87	73.19	NA	0		Yes
	Lower Cedar Grove	7.80	.00	7.80	.7	2		No
	Alma A	13.95	.00	13.95	NA	0		No
	Alma	10.84	.19	11.03	.8	2		Yes
	Peerless	.61	.00	.61	NA	0		No
	Campbells Creek 2	11.93	4.57	16.50	.7	65		Yes
	Powellton	17.49	.00	17.49	.6	110		Yes
	Eagle	34.56	14.72	49.28	.9	9		Yes
	Bens Creek	4.33	.00	4.33	NA	0		Yes
	Little Eagle	1.87	.16	2.03	1.4	2		No
	Cedar	6.61	.00	6.61	NA	0		No
	Lower War Eagle	22.37	.00	22.37	NA	0		No
	Glenalum Tunnel	28.74	.00	28.74	.6	1		No
	Gilbert	54.26	.00	54.26	1.5	5		Yes
	Douglas	3[illegible]37	.00	38.87	.9	120		Yes
	Iaeger	6.56	.00	6.56	2.1	1		No
	Sewell B	.61	.00	.61	NA	0		No
	Sewell	127.08	24.49	151.57	.6	160		Yes
	Beckley	168.03	.00	168.03	1.1	19		Yes
	Fire Creek	35.39	4.61	40.00	1.0	5		No

COUNTY BREAKDOWN OF COAL SEAMS

Million Short Tons
(Continued)

County	Seam	Mineable Quantity in that County			Average Sulfur Content per Seam	Number of Analysis	Weighted Average Sulfur Content per County	Seam Actively Mined
		Deep	Strip	Total	%		%	
Wyoming (cont.)	Little Fire Creek	.83	.00	.83	NA	0		No
	Pocahontas No. 9	4.93	.70	5.63	.7	1		No
	Pocahontas No. 7	.09	.00	.09	NA	0		No
	Pocahontas No. 6	126.36	.00	126.36	.8	19		Yes
	Pocahontas No. 5	.58	.00	.58	NA	0		No
	Pocahontas No. 4	150.30	12.50	162.80	.9	5		No
	Pocahontas No. 3	647.08	13.14	660.22	.7	71		Yes
	Total			1,748.40		1,194	.81	

*Source: United States Bureau of Mines' Information Circular Number 8680/1975.

ANALYSES OF MINEABLE COAL SEAMS IN WEST VIRGINIA

Partial Analysis of 26 of the 62 Mineable Coal Seams

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Alma							
(67 Analyses)	Min.	29	47	2	0.6	12,200	.001
	Max.	44	65	17	4.0	15,000	.04
	Med.	38	55	5	1.0	14,300	.005

Total Area 1,230 Square Miles
Reserve 3.2 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Bakerstown							
(73 Analyses)	Min.	14	43	5	0.4	11,200	.005
	Max.	37	77	23	7.0	15,000	.12
	Med.	22	68	8	1.1	14,000	.02

Total Area 980 Square Miles
Reserve 2 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Beckley							
(340 Analyses)	Min.	13	68	2	0.4	13,600	.002
	Max.	25	81	12	2.5	15,400	.08
	Med.	18	75	4	0.7	14,600	.012

Total Area 600 Square Miles
Reserve 2 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Campbells Creek (Peerless)							
(258 Analyses)	Min.	25	45	2	0.6	12,800	.001
	Max.	45	69	15	3.0	15,400	.055
	Med.	34	59	5	1.0	14,400	.005

Total Area 750 Square Miles
Reserve 1.9 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Chilton							
(50 Analyses)	Min.	32	50	2	0.6	12,800	.001
	Max.	44	64	14	3.6	15,000	.08
	Med.	36	56	5	0.8	14,200	.006

Total Area 1,470 Square Miles
Reserve 4.3 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Coalburg							
(114 Analyses)	Min.	30	47	3	.06	12,000	.001
	Max.	42	62	16	3.0	15,200	.045
	Med.	35	55	7	.7	13,800	.006

Total Area 875 Square Miles
Reserve 3.3 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Eagle							
(152 Analyses)	Min.	23	49	2	0.6	13,200	.001
	Max.	41	73	17	7.0	15,400	.14
	Med.	31	62	5	0.9	14,400	.006

Total Area 1,360 Square Miles
Reserve 4.2 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Elk Lick							
(36 Analyses)	Min.	15	45	7	.08	12,800	.001
	Max.	41	76	18	5.5	14,400	.20
	Med.	17	68	11	2.5	13,700	.02

Total Area 230 Square Miles
Reserve 650 Million Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Fire Creek							
(196 Analyses)	Min.	15	57	2	0.4	10,600	.002
	Max.	30	80	15	1.2	15,600	.14
	Med.	17	75	5	0.7	14,600	.01

Total Area 930 Square Miles
Reserve 2½ Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Upper Freeport							
(183 Analyses)	Min.	15	43	5	0.4	10,200	.001
	Max.	43	77	20	9.0	14,600	.12
	Med.	29	61	8	1.2	13,800	.02

Total Area 1,165 Square Miles
Reserve 3½ Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Gilbert							
(24 Analyses)	Min.	18	54	2	.6	12,800	.002
	Max.	39	76	17	6.0	15,200	.08
	Med.	31	60	7	1.2	14,100	.005

Total Area 750 Square Miles
Reserve 1.3 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Upper Kittanning (44 Analyses)	Min.	16	46	5	0.06	12,600	.003
	Max.	43	73	17	5.6	14,000	.055
	Med.	33	54	10	1.5	13,200	.01

Total Area 1,400 Square Miles
Reserve 4 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Lower Kittanning (292 Analyses)	Min.	16	41	2	0.4	11,600	.001
	Max.	48	72	26	9.0	15,600	.5
	Med.	34	55	9	1.0	13,500	.01

Total Area 2,640 Square Miles
Reserve Over 10 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Pittsburgh (492 Analyses)	Min.	17	45	4	0.6	11,400	.002
	Max.	45	77	20	14.0	14,800	.16
	Med.	37	53	7	2.2	13,800	.017

Total Area 2,165 Square Miles
Reserve 13¼ Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Pocahontas No. 6 (47 Analyses)	Min.	16	57	2	0.4	13,000	.002
	Max.	27	79	9	1.2	15,400	.07
	Med.	20	75	4	0.7	14,600	.009

Total Area 300 Square Miles
Reserve 855 Million Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Pocahontas No. 4 (76 Analyses)	Min.	12	70	3	0.4	14,000	.001
	Max.	22	82	9	1.0	15,600	.012
	Med.	16	77	5	0.5	14,600	.005

Total Area 155 Square Miles
Reserve 800 Million Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Pocahontas No. 3 (860 Analyses)	Min.	12	65	3	0.4	12,800	.001
	Max.	25	82	13	2.0	15,600	.100
	Med.	17	76	4	0.5	14,600	.005

Total Area 650 Square Miles
Reserve 2.8 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Powellton (32 Analyses)	Min.	29	54	2	0.6	14,000	.003
	Max.	44	66	9	3.2	15,000	.015
	Med.	32	61	4	0.7	14,700	.005

Total Area 270 Square Miles
Reserve 735 Million Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Redstone (61 Analyses)	Min.	32	54	3	1.0	12,800	.002
	Max.	46	66	14	5.5	14,200	.07
	Med.	38	62	7	2.0	13,700	.02

Total Area 238 Square Miles
Reserve 1 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Sewell (800 Analyses)	Min.	13	51	2	0.4	11,200	.001
	Max.	34	81	25	5.0	15,800	.09
	Med.	22	72	4	0.9	14,600	.006

Total Area 2,000 Square Miles
Reserve 6¼ Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Sewickley (68 Analyses)	Min.	18	47	7	0.5	12,600	.003
	Max.	41	74	17	4.5	14,600	.035
	Med.	46	52	10	3.0	13,400	.01

Total Area 930 Square Miles
Reserve 3-3/4 Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Stockton-Lewiston (54 Analyses)	Min.	29	46	3	0.6	11,400	.002
	Max.	42	61	22	4.6	14,800	.0
	Med.	36	54	6	0.8	13,600	.005

Total Area 1,350 Square Miles
Reserve 4½ Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Washington (24 Analyses)	Min.	28	40	8	0.8	10,400	.001
	Max.	37	58	28	9.0	13,800	.08
	Med.	35	49	13	2.8	12,400	.015

Total Area 1,650 Square Miles
Reserve 3½ Billion Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Waynesburg							
(32 Analyses)	Min.	30	45	9	1.0	11,400	.003
	Max.	38	57	24	7.0	14,000	.055
	Med.	34	50	14	2.2	12,500	.012

Total Area 780 Square Miles

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Welch							
(45 Analyses)	Min.	13	57	5	0.4	13,000	.004
	Max.	39	29	13	1.4	15,200	.04
	Med.	18	73	7	0.5	14,300	.01

Total Area 350 Square Miles
Reserve 965 Million Tons

SEAM		VOLATILE MATTER %	FIXED CARBON %	ASH %	SULFUR %	B.T.U. PER LB.	PHOSPHORUS %
Winifrede							
(93 Analyses)	Min.	28	50	2	.6	12,400	.001
	Max.	43	69	12	2.0	15,200	.015
	Med.	35	57	5	.7	14,200	.005

Total Area 1,310 Square Miles
Reserve 3½ Billion Tons

* Source: West Virginia Geological and Economic Survey
**N.B. This work does not represent the most recent analysis performed by the West Virginia Geological and Economic Survey. However, these figures will provide a general approximation of West Virginia Coal Characteristics.

WEST VIRGINIA BITUMINOUS COAL RESERVE BASE BY THICKNESS, TYPE OF MINING AND SULFUR RANGE
(Million Short Tons)

	Reserves by Sulfur Range, Percent											
	≤.4	.5-.6	.7-.8	.9-1.0	1.1-1.4	1.5-1.8	1.9-2.2	2.3-2.6	2.7-3.0	>3.0	Unknown	Total	No. of Analysis
Deep													
28"-42" Thick	90.81	1263.04	1966.83	1258.40	1563.89	920.62	674.51	431.38	288.82	1013.15	1729.35	11205.17	
>42" Thick	138.38	1660.41	2982.00	1726.73	2132.34	1694.49	1760.62	1626.33	1490.41	5539.73	2413.57	23172.60	
Total Deep	229.19	2923.45	4948.83	2985.13	3696.23	2615.11	2435.13	2057.71	1779.23	6552.88	4142.92	34377.77	21148
Total Strip 28" >Thick	44.12	799.33	1363.37	798.64	581.16	262.61	239.14	191.94	147.97	270.40	509.55	5212.02	351
STATE TOTAL	273.31	3722.78	6312.20	3783.77	4277.39	2877.72	2674.27	2249.65	1927.20	6823.28	4652.47	39589.79	21499

*Source: Bureau of Mines Information Circular 8655 and 8680/1974.

AVERAGE ANALYSIS OF WEST VIRGINIA COALS

	Moisture	Ash		Sulfur			BTU			No. of Analysis
	A.R.	A.R.	Dry	A.R.	Dry	M&AF	A.R.	Dry	M&AF	
State Average	2.9	8.2	8.5	1.5	1.6	1.7	13,540	13,950	15,240	26,468

*Note: A.R. - As received - Coal with the normal moisture present at the time of taking the sample calculated from the analysis of the air-dried sample.

Dry - Dry basis - Analytical results of tests on the analyzed samples calculated to a moisture-free basis.

M&AF - Moisture and Ash Free

**Source: Bureau of Mines Information Circular 8655

***N.B. - Reserve Base is defined by the U.S. Bureau of Mines as in-place beds of bituminous coal... that occur at depths to 1,000 feet. A considerable proportion of West Virginia's coal reserves are located at a greater depth and therefore are not covered in this analysis.

SUMMARY BY COUNTY OF PERMITS TO DRILL OIL AND/OR GAS WELLS

COUNTIES	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Barbour	83	55	47	48	95	27	23	49	46	28	57	76	110	162
Berkeley														
Boone	13	18	9	4	9	2	11	7	12	2	4	9	14	30
Braxton	38	49	40	96	98	62	49	24	75	22	21	41	60	76
Brooke			1			1					3			
Cabell	4	1	6	8		2	2	5	4	8	10		2	7
Calhoun	114	46	40	37	47	28	24	11	16	18	22	31	42	64
Clay	26	22	16	30	25	11	41	22	18	32	133	58	95	81
Doddridge	138	96	69	54	39	32	48	59	47	15	24	49	38	75
Fayette	6	5	3	6	3	3	8	22	25	26	27	12	21	34
Gilmer	146	78	49	40	77	109	70	86	136	89	106	168	197	158
Grant	1													1
Greenbrier		1	1	1	1					1	1		1	
Hampshire	6	5		1		1	4		3					
Hancock	1		1	2	1			1		1	4			
Hardy	4	3												
Harrison	39	35	32	34	25	31	44	46	131	102	54	89	183	197
Jackson	38	15	18	19	23	70	66	31	11	4	4	17	37	46
Jefferson														
Kanawha	43	26	123	136	110	40	69	56	72	17	40	36	48	90
Lewis	83	79	74	57	94	54	58	49	64	32	53	73	57	93
Lincoln	25	25	10	16	12	9	8	3	22	117	48	101	85	28
Logan	24	10	10	5	6	13	16	7	11	11	4	8	13	7
Marion	8	5	4	5	5	1			6	3	2	3	6	11
Marshall	6	4	2	2	3	3	7	3	3	3	6	2	3	4
Mason	20	4	1	1	1	1	1	3	9	5	10	3	6	20
McDowell	30	53	25	26	22	34	51	54	41	15	19	40	57	44
Mercer							1	2	4	12		3	31	7
Mineral		2		4			4				1		2	8

SUMMARY BY COUNTY OF PERMITS TO DRILL OIL AND/OR GAS WELLS
(Continued)

COUNTIES	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Mingo	12	8	8	7	1	7	4	13	19	8	12	8	15	21
Monongalia	12	15	98	9	2	2	4	3	5	4	7	8	12	19
Monroe										2				2
Morgan	1	1				1			1				1	2
Nicholas	2	8	14	4	3	5	9	7	12	26	48	26	22	45
Ohio				4	1		2	1	3		1			1
Pendleton				3							1			
Pleasants	2	7	3	6	15	5	10	1	6	9	3	3	9	16
Pocahontas	4	11												
Preston	1	3	4	8	4	19	12	3		6	6	5	3	11
Putnam	13	3	19	14	11	1		10	5	16	16	29	13	51
Raleigh	13			2	4	2	3	7	14	14	12	36	65	32
Randolph	1	9			23	5	3	4	6	9		2	37	37
Ritchie	127	121	73	40	65	50	65	53	21	52	42	62	135	199
Roane	134	297	104	26	123	110	32	33	37	12	26	18	16	40
Summers										1				
Taylor	2	2	2	2	3	1	6	3	2	7	17	18	1	18
Tucker					2	1	1	2	1	2			2	2
Tyler	6	15	9	4	2	5	2	24	14	12		2	11	15
Upshur	83	76	59	64	130	92	48	65	69	37	56	83	81	104
Wayne	14	30	13	7	6	9	3	3	4	5	9	8	15	26
Webster				2	2	1	1			1			2	
Wetzel	4	4	8	3	7			3		5	6	9	31	9
Wirt	37	14	14	25	10	4	6	29	50	8	11	35	31	18
Wood	10	20	32	11	4	4	6	5	37	57	24	38	36	56
Wyoming	23	6	5	2	9	8	16	15	11	4	4	10	44	28
TOTAL	1,407	1,287	957	875	1,123	1,123	866	827	827	860	954	1,221	1,690	1,995

*Source: West Virginia Department of Mines, Oil & Gas Division - Annual Reports

SUMMARY OF COMPLETIONS TO FRACTURE OIL & GAS WELLS

	1965	1966	1967	1968	1969	1970	1971	1972
Gas	13	15	12	7	31	38	45	32
Oil	7	6	4	1	5	2	11	2
Oil & Gas	11	18	10	4	24	14	21	3
Dry	---------	2	---------	---------	-----------	6	6	2
Gas Production Initial Flow (Cubic Feet)	8,836,000	12,235,500	7,351,500	3,029,800	152,247,000	15,375,500	15,538,000	11,306,000
Potential Gas Production Per Well (Cubic Feet a Day).	679,692	815,700	612,625	432,828	4,911,193	404,618	345,288	353,312
Oil Production Initial Open Flow Barrels	872	552	212	118	406	258	468	36
Potential Oil Production Per Well (Barrel a Day) .	124	92	53	118	81	129	42	21
Total Wells Completed . . .	31	41	26	12	60	60	83	39
Footage	72,430	98,081	58,655	23,829	127,045	120,745	135,170	82,834

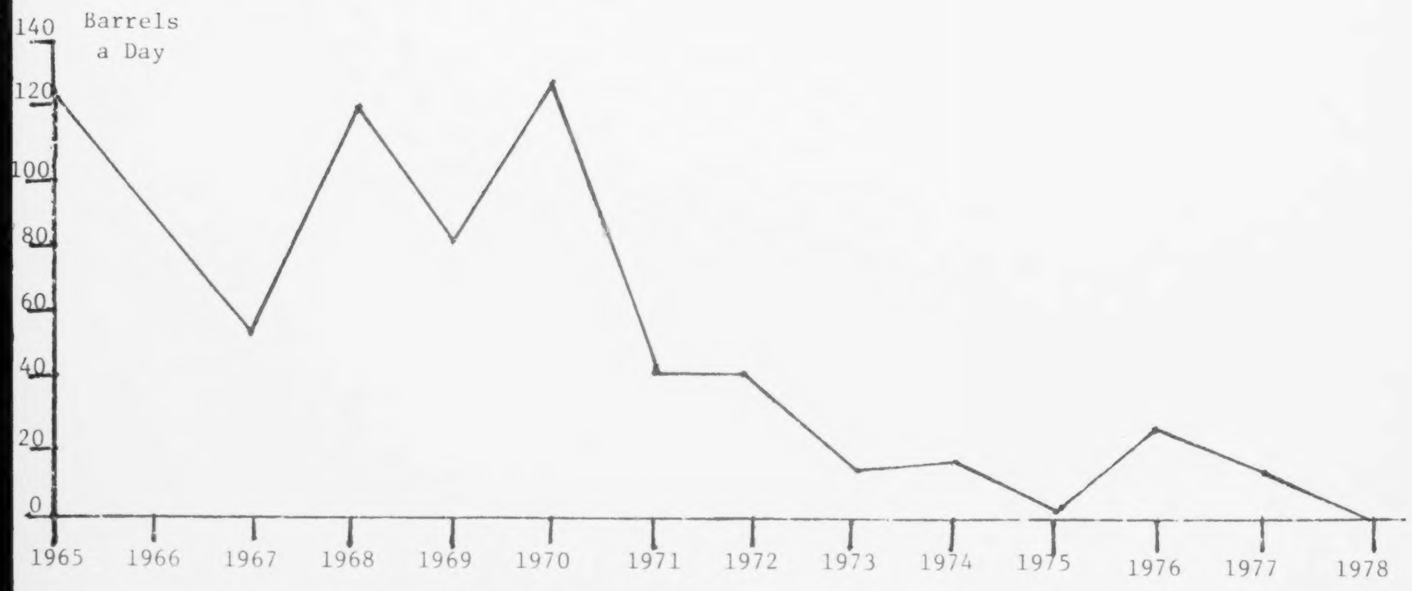
SUMMARY OF COMPLETIONS TO FRACTURE OIL & GAS WELLS
(Continued)

	1973	1974	1975	1976	1977	1978
Gas	21	20	24	19	22	7
Oil	17	2	5	1	1	---------
Oil & Gas	3	8	1	3	2	---------
Dry	2	1	---------	---------	----------	1
Gas Production Initial Flow (Cubic Feet)	9,337,000	10,041,000	5,862,000	7,511,000	13,897,000	5,084,000
Potential Gas Production Per Well (Cubic Feet a Day).	444,619	502,050	244,250	395,316	631,682	726,286
Oil Production Initial Open Flow Barrels	258	33	14	24	8	---------
Potential Oil Production Per Well (Barrel a Day) .	15	16	2	24	8	---------
Total Wells Completed . . .	43	31	30	20	25	8
Footage	95,995	79,413	58,266	52,603	50,969	18,550

*Source: West Virginia Department of Mines - Oil and Gas Division, Annual Reports

POTENTIAL GAS PRODUCTION PER WELL IN WEST VIRGINIA
1965 - 1978

POTENTIAL OIL PRODUCTION PER WELL IN WEST VIRGINIA
1965 - 1978



SUMMARY OF WELL COMPLETIONS

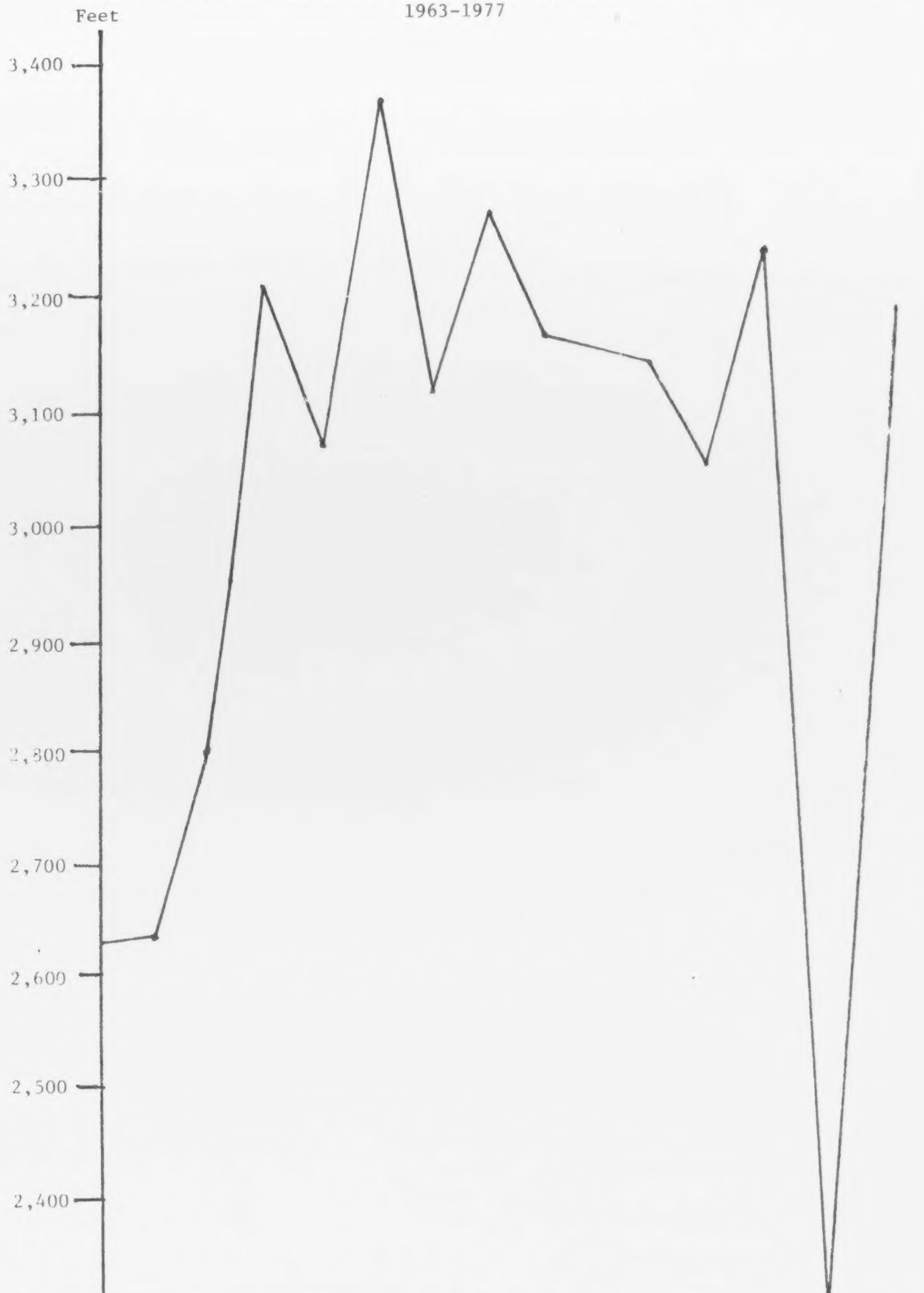
	1965	1966	1967	1968	1969	1970	1971
Gas Wells..............	675	46	366	408	512	414	381
Oil Wells..............	138	-------------	98	41	119	64	53
Oil & Gas..............	206	1	68	26	54	35	42
Dry....................	142	7	110	91	85	96	94
Other Wells (Total).....	30	65	21	12	29	10	9
Storage............	22	38	13	3	1	7	4
Incomplete.........	1	13	1	-------------	-------------	-------------	-------------
Water Injection....	4	-------------	2	3	25	-------------	-------------
Brine..............	3	3	2	4	-------------	-------------	1
Gas Production Cu. Ft. Daily Initial Open Flow.	1,448,899,467	1,092,709,996	1,323,008,118	2,734,400,924	1,983,626,313	2,151,486,000	1,518,728,000
Oil Production BBLS Daily Initial Open Flow.	7,432	9,384	3,629	1,959	4,104	2,267	3,163
Total Wells Completed...	1,188	1,222	663	578	799	619	583
Footage................	3,335,892	3,928,539	2,037,216	1,955,841	2,494,342	2,037,726	1,850,484
Average Depth Per Well (ft.).............	2,807	3,214	3,072	3,383	3,121	3,291	3,174
Permits Cancelled.......	-------------	123	19	21	82	17	17
Drilling Not Reported Complete................	-------------	273	275	276	242	230	238
Total Drilling Permits Issued..........	1,407	1,287	957	875	1,123	866	838

SUMMARY OF WELL COMPLETIONS
(Continued)

	1972	1973	1974	1975	1976	1977	1978
Gas Wells	418	480	470	517	686	710	957*
Oil Wells	13	25	7	29	27	15	51*
Oil & Gas	98	60	219	108	119	113	-----------*
Dry	94	112	85	95	100	102	93*
Other Wells (Total)	355	561	412	418	490	855	46*
Storage	18	34	84	43	11	-----------	-----------*
Incomplete	337	527	328	356	448	843	788*
Water Injection	-----------	-----------	-----------	-----------	27	2	-----------*
Brine	-----------	-----------	-----------	-----------	-----------	-----------	-----------*
Gas Production Cu. Ft. Daily Initial Open Flow	463,610,000	566,521,413	702,482,000	550,533,376	584,775,000	599,648,000	820,133,000
Oil Production BBLS Daily Initial Open Flow	1,766	3,140	3,849	2,046	2,921	1,643	738
Total Wells Completed	641	711	865	811	974	997	1,147
Footage	2,029,579	2,240,577	2,640,966	2,382,025	2,240,877	3,186,102	-----------**
Average Depth Per Well (ft.)	3,166	3,151	3,053	3,255	2,300	3,196	-----------**
Permits Cancelled	20	15	5	58	29	39	60
Drilling Not Reported Complete	-----------	-----------	-----------	-----------	-----------	-----------	-----------
Total Drilling Permits Issued	827	1,073	860	1,224	1,451	1,879	1,995

Source: West Virginia Department of Mines - Oil & Gas Division, Annual Reports.
*Note: Well calculations for 1978 do not include delinquents.
**Note: Data was not compiled for 1978.

AVERAGE DEPTH PER WELL DRILLED IN WEST VIRGINIA 1963-1977



SUMMARY OF DEEP WELL COMPLETIONS

	1965	1966	1967	1968	1969	1970	1971
Gas	54	36	48	69	42	54	63
Oil	-----	-----	-----	1	-----	-----	-----
Oil & Gas	-----	-----	1	-----	-----	1	-----
Dry	10	11	23	38	27	17	31
Other Wells	3	19	-----	4	1	6	1
Storage	-----	18	-----	-----	-----	-----	-----
Brine	3	-----	-----	-----	-----	-----	-----
Incomplete	-----	-----	-----	-----	-----	-----	-----
Gas Production Initial Daily Open Flow Cu. Ft.	206,012,000	306,792,000	12 bbls 825,239,000	300 bbls 1,894,376,000	1,373,510	100 bbls 1,765,791,000	1,853,698,000
Total Wells Drilled	67	66	72	109	70	78	95
Footage	385,368	415,791	416,163	654,606	410,415	460,707	546,741

SUMMARY OF DEEP WELL COMPLETIONS
(Continued)

	1972	1973	1974	1975	1976	1977	1978
Gas........................	20	28	17	8	4	19	21
Oil........................	----------	----------	----------	---------	---------	----------	---------
Oil & Gas..................	----------	----------	----------	---------	---------	1	---------
Dry........................	12	12	9	5	4	2	3
Other Wells................	25	----------	7	15	33	51	80
Storage..............	----------	----------	----------	---------	---------	2	3
Brine.................	1	----------	----------	1	---------	----------	---------
Incomplete............	24	----------	7	14	33	51	80
Gas Production Initial Daily Open Flow Cu. Ft......	38,425,000	34,667,000	32,072,000	4,103,000	1,241,000	1 bbl 27,345,000	19,688,000
Total Wells Drilled.........	33	40	21	14	8	24	27
Footage....................	196,971	223,022	175,999	89,346	51,335	132,609	157,805

*Source: West Virginia Department of Mines - Oil & Gas Division, Annual Reports.

Note: A deep well is any well drilled into the top of the Onondaga Formation or 6,000 feet; whichever is less.

SUMMARY BY COUNTY OF OIL AND GAS WELLS ABANDONED

Total Wells Abandoned

COUNTIES	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Barbour	12	16	10	10	10	9	14	13	10	10	12	5	19	20
Boone	30	16	7	2	8	11	7	8	7	9	6	5	3	4
Braxton	8	11	4	11	12	26	21	10	17	11	13	13	5	7
Brooke			3			1	7	2	1	1		4		1
Cabell	7	4	4	7	9	1	9	1				1	3	3
Calhoun	25	45	16	6	19	19	8	10	7	23	8	6	16	8
Clay	7	2	5	11	5	1	6	5	6	7	3	6	1	2
Doddridge	44	41	38	21	40	18	14	14	11	119	47	14	7	4
Fayette		3	2	2	2	1	1	2	3	4	3	3	2	3
Gilmer	36	38	29	13	19	25	20	19	26	44	27	16	30	18
Greenbrier			1	1	1	1				1		1	1	
Hampshire	1	1				1						1		
Hancock	1							1		5				
Hardy	1	1												
Harrison	25	20	22	14	11	11	30	47	82	70	24	26	24	25
Jackson	19	15	14	15	16	19	26	25	24	63	23	11	6	12
Kanawha	52	13	28	52	38	34	37	13	31	62	26	10	14	17
Lewis	37	58	34	34	19	42	27	21	32	55	31	10	5	15
Lincoln	24	20	25	29	1		20	7	3	14	21	20	30	7
Logan	8	17	8	1	1	20	5	6	2	7	8		2	
Marion	12	7	6	10	5	10	15	5	5	27	11	5	4	8
Marshall	15	5	6	2	32	38	39	12	3	6	6		1	
Mason	3	4	1	2	3	5	1	1	3	4	1	3	1	4
McDowell	5	6	6	5	9	6	4	7	6	11	1	1		1
Mercer	1								1	2			2	4
Mineral			1	1			3					1		

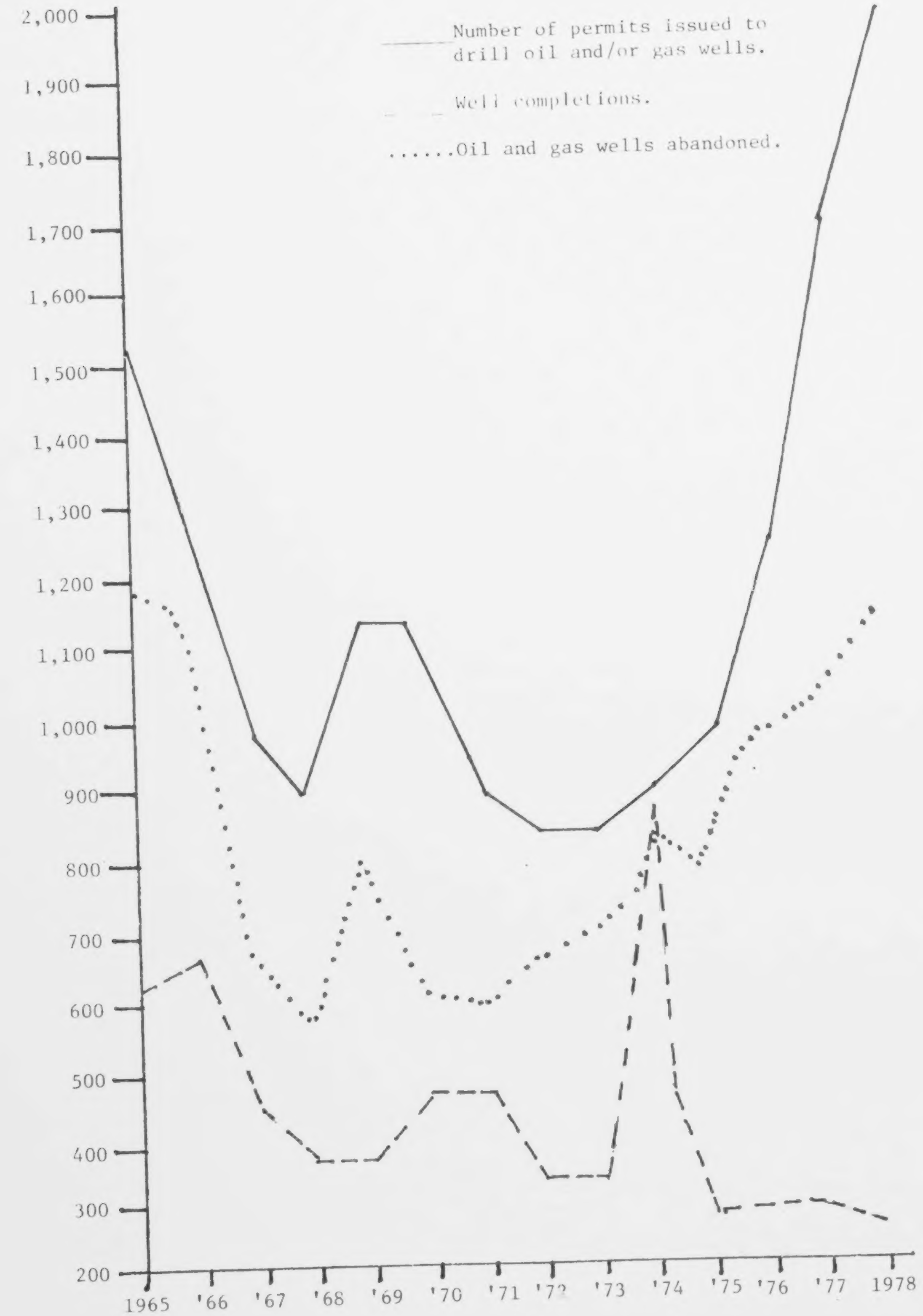
SUMMARY BY COUNTY OF OIL AND GAS WELLS ABANDONED
(Continued)

Total Wells Abandoned

COUNTIES	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978
Mingo	11	5	6	3	4	2	10		5	11	7		4	5
Monongalia	5	14	15	8	5	3	8	3	6	14	6	7	6	9
Monroe										2				
Morgan						1			1					
Nicholas	7	1	6	6	2	1	4	4	7	4	14	8	4	2
Ohio				1	1			1	1	3	1			1
Pendleton					1	1							1	
Pleasants	10	9		1	2	15	6	1	14	8	2	4	13	31
Pocahontas														
Preston	1		1	1	5	3	2	3		1	2	2	1	2
Putnam	8	7	9	11	10	3	1	1	4	9	5	5	9	1
Raleigh	7	3	1	3	8	1	2	8	7	1	2	3	3	3
Randolph	1	4		1		1	3	1	4	6			3	1
Ritchie	61	97	21	25	19	24	23	7	21	42	32	8	18	13
Roane	31	31	24	20	12	35	27	27	15	58	34	12	17	9
Summers										1				
Taylor	1	3	1	2	1		11	3	2	4	3	3		1
Tucker						1		2		2	1		1	
Tyler	15	13	9	6	8	8	6	1	3	17	17	9		4
Upshur	14	15	21	13	13	29	21	15	17	80	21	3	11	10
Wayne	29	30	15	15	8	26	15	4	4	9	24	15	9	15
Webster					3	1		2		1			1	1
Wetzel	17	38	12	10	4	7	6	4	2	19	7	2	2	4
Wirt	11	6	18	8	9	7	4	4	3	20	3	19	13	3
Wood	21	20	14	10	13	7	3	3	3	17	12	11	5	4
Wyoming	6	3	7	2	5	3	8	5	4	4	7	1	2	5
TOTAL	629	642	450	395	393	478	474	332	332	888	471	275	299	287

*Source: West Virginia Department of Mines - Oil and Gas Division, Annual Report

WEST VIRGINIA OIL AND GAS WELLS - PERMITS ISSUED, WELLS COMPLETED AND WELLS ABANDONED



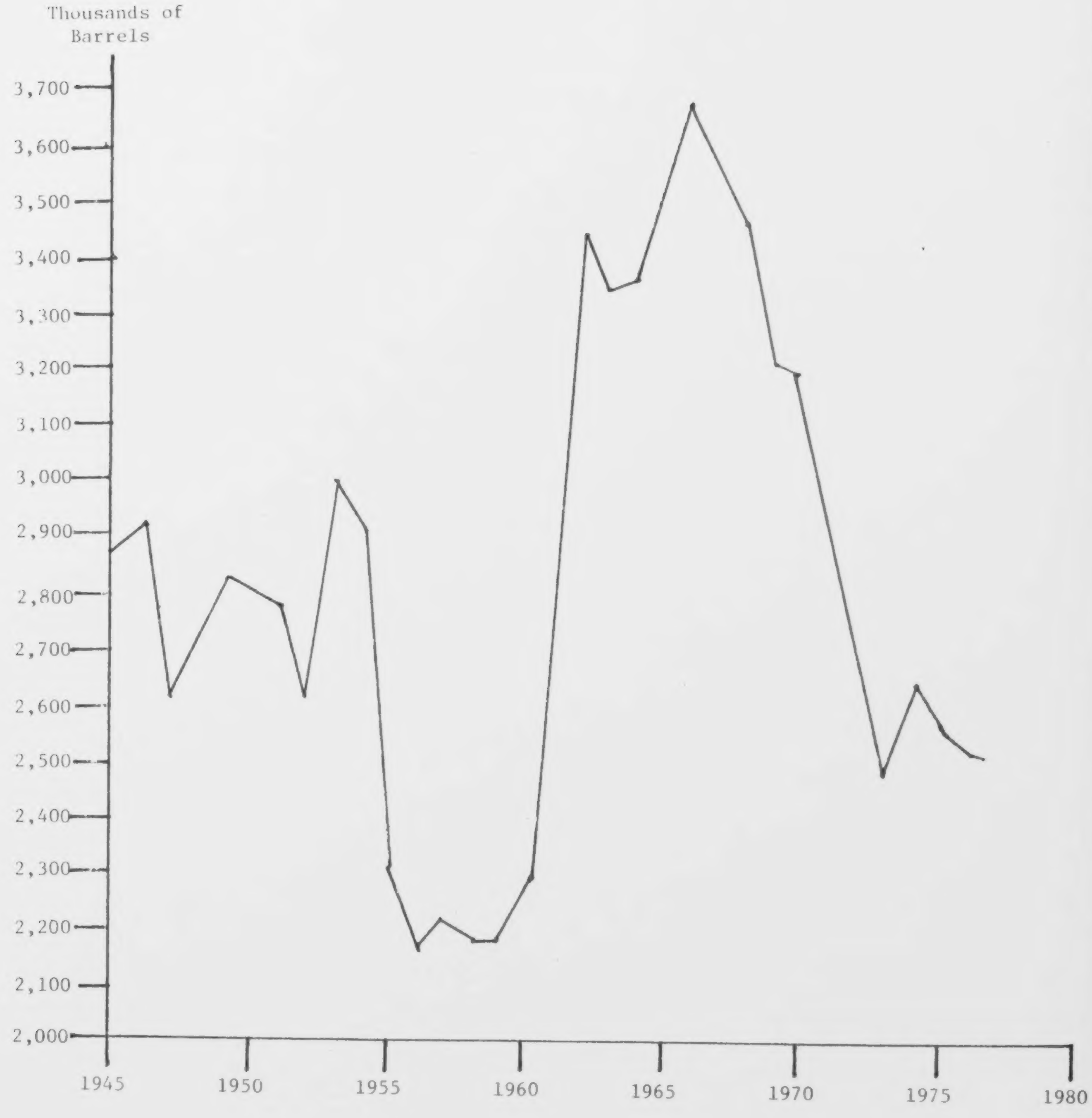
WEST VIRGINIA OIL PRODUCTION AND PROVED RESERVES AND THE ULTIMATE RECOVERY AND ORIGINAL OIL-IN-PLACE BY YEAR OF DISCOVERY

(Thousands of Barrels)

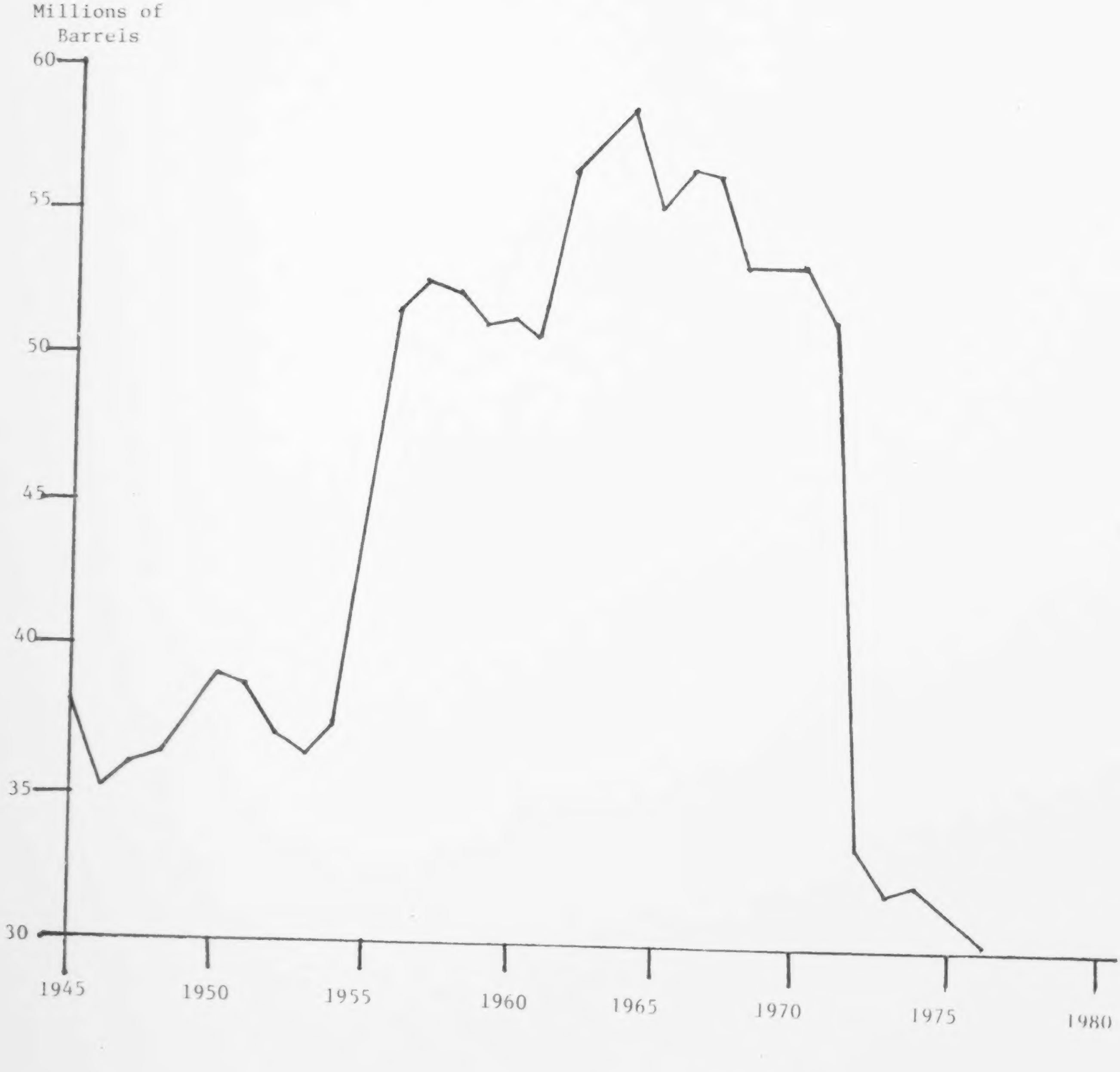
	For All Fields Discovered to Date		For Fields Discovered During Year	
Year	Production During Year	Proved Reserves at End of Year	1977 Estimate of Ultimate Recovery	1977 Estimate of Original Oil-in-Place
Pre-1920	302,802		514,820	2,419,933
1920	8,249		–	–
1921	7,822		700	7,017
1922	7,021		–	–
1923	6,358		343	2,286
1924	5,920		–	–
1925	5,763		11,910	55,100
1926	5,946		–	–
1927	6,023		–	–
1928	5,661		–	–
1929	5,574		–	–
1930	5,071		–	–
1931	4,472		–	–
1932	3,876		–	–
1933	3,815		–	–
1934	4,095		–	–
1935	3,902		–	–
1936	3,847		–	–
1937	3,845		530	4,410
1938	3,684		–	–
1939	3,580		4,200	32,470
1940	3,444		2,740	27,400
1941	3,433		1,130	11,320
1942	3,574		–	–
1943	3,349		–	–
1944	3,070		–	–
1945	2,879	38,630	375	1,700
1946	2,929	35,655	–	–
1947	2,617	36,092	–	–
1948	2,692	36,697	–	–
1949	2,839	37,992	–	–
1950	2,808	39,042	–	–
1951	2,757	38,762	–	–
1952	2,602	37,212	–	–
1953	3,030	36,612	–	–
1954	2,902	37,312	–	–
1955	2,320	47,000	–	–
1956	2,179	51,221	–	–
1957	2,215	52,545	–	–
1958	2,186	52,104	–	–
1959	2,184	51,259	3,320	16,200
1960	2,300	51,433	–	–
1961	2,760	50,924	–	–
1962	3,470	56,172	–	–
1963	3,350	57,303	–	–
1964	3,370	58,710	200	3,200
1965	3,530	55,183	3,515	30,950
1966	3,677	56,573	–	–
1967	3,561	56,217	80	530
1968	3,464	53,568	420	4,200
1969	3,212	53,481	–	–
1970	3,202	53,221	–	–
1971	3,023	51,731	–	–
1972	2,721	34,040	–	–
1973	2,459	32,126	–	–
1974	2,649	32,210	820	8,200
1975	2,562	31,418	20	200
1976	2,519	30,009	20	200
1977	2,518	28,686	–	–

*Source: American Petroleum Institute and American Gas Association, Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977.

WEST VIRGINIA OIL PRODUCTION 1945-1980



PROVED OIL RESERVES IN WEST VIRGINIA 1945-1980



PETROLEUM REFINERY INVENTORY

Company	County	Capacity bbl/day
Pennzoil Company Elk Refining Division Falling Rock	Kanawha	6,300
Quaker State Oil Refinery Corporation Newell	Hancock	9,700
Quaker State Oil Refinery Corporation St. Mary's	Pleasants	5,000

TOTAL SUPPLY OF GAS FROM ALL SOURCES (Thousand Cubic Feet)

Year	Produced In West Virginia	Imported From Other States	Withdrawn From Storage	Liquified Petroleum Gas	*Total
1924	178,438,585				
1925	175,788,952				
1926	174,941,201				
1927	157,025,860				
1928	159,441,352				
1929	161,581,741				
1930	140,585,401				
1931	123,282,689				
1932	98,300,482				
1933	95,606,571				
1934	105,260,619				
1935	113,159,957				
1936	139,101,759				
1937	157,573,607				
1938	139,551,013				
1939	152,600,308				
1940	200,916,562				
1941	233,697,611				
1942	248,142,275				
1943	248,151,649				
1944	209,137,667				
1945	187,116,215				
1946	200,393,100				
1947	193,847,333				
1948	196,244,941				
1949	173,395,766				
1950	180,642,169				
1951	179,542,379	263,707,360	47,245,307	154,552	390,649,598
1952	169,453,046	293,773,643	56,369,181	-	519,595,870
1953	171,994,539	257,112,924	46,435,158	-	475,542,621
1954	170,469,001	252,065,844	69,740,308	-	492,275,153
1955	185,669,829	340,648,931	79,158,478	-	605,477,238
1956	185,421,568	382,881,091	79,002,672	-	647,305,331
1957	182,213,152	378,015,553	82,238,887	-	642,467,592
1958	181,926,798	403,441,646	111,079,995	-	696,448,439
1959	184,188,880	435,468,849	112,448,223	-	732,105,952
1960	180,717,702	454,470,586	125,457,588	-	760,645,876
1961	190,256,946	474,464,863	109,398,822	-	774,120,631
1962	202,409,666	473,831,216	131,447,772	-	807,688,654
1963	204,377,714	523,042,906	131,415,157	-	858,835,777
1964	204,474,920	569,777,871	114,413,873	-	888,666,664
1965	210,166,218	617,920,480	124,867,220	-	952,953,918
1966	208,193,686	656,229,398	132,901,011	-	997,324,095
1967	214,195,750	670,041,731	124,969,097	-	1,009,206,578
1968	232,624,786	682,200,736	156,727,126	-	1,071,552,648
1969	223,324,639	730,794,066	152,787,234	-	1,106,905,939
1970	257,642,814	790,703,197	145,101,125	1,174	1,193,448,310
1971	227,341,618	862,187,181	144,463,288	61,817	1,234,053,904
1972	206,257,825	891,762,579	190,266,436	37,383	1,288,324,223
1973	174,177,573	896,724,202	157,864,333	31,133	1,288,797,241
1974	168,445,775	812,287,414	150,477,896	-	1,131,211,085
1975	154,484,175	686,093,495	122,840,861	190	963,418,721
1976	157,219,442	544,493,344	189,176,535	12,926	890,902,247
1977	156,020,969	808,834,590	136,572,064	79,756	1,101,507,379

*This total is less than the actual total owing to only part of the independent producers reporting statistical information to the Public Service Commission.

Source: West Virginia Public Service Commission's Annual Report 1977.

WEST VIRGINIA TOTAL PRODUCTION, CONSUMPTION AND
NET EXPORTS OF NATURAL GAS
(Thousand Cubic Feet)

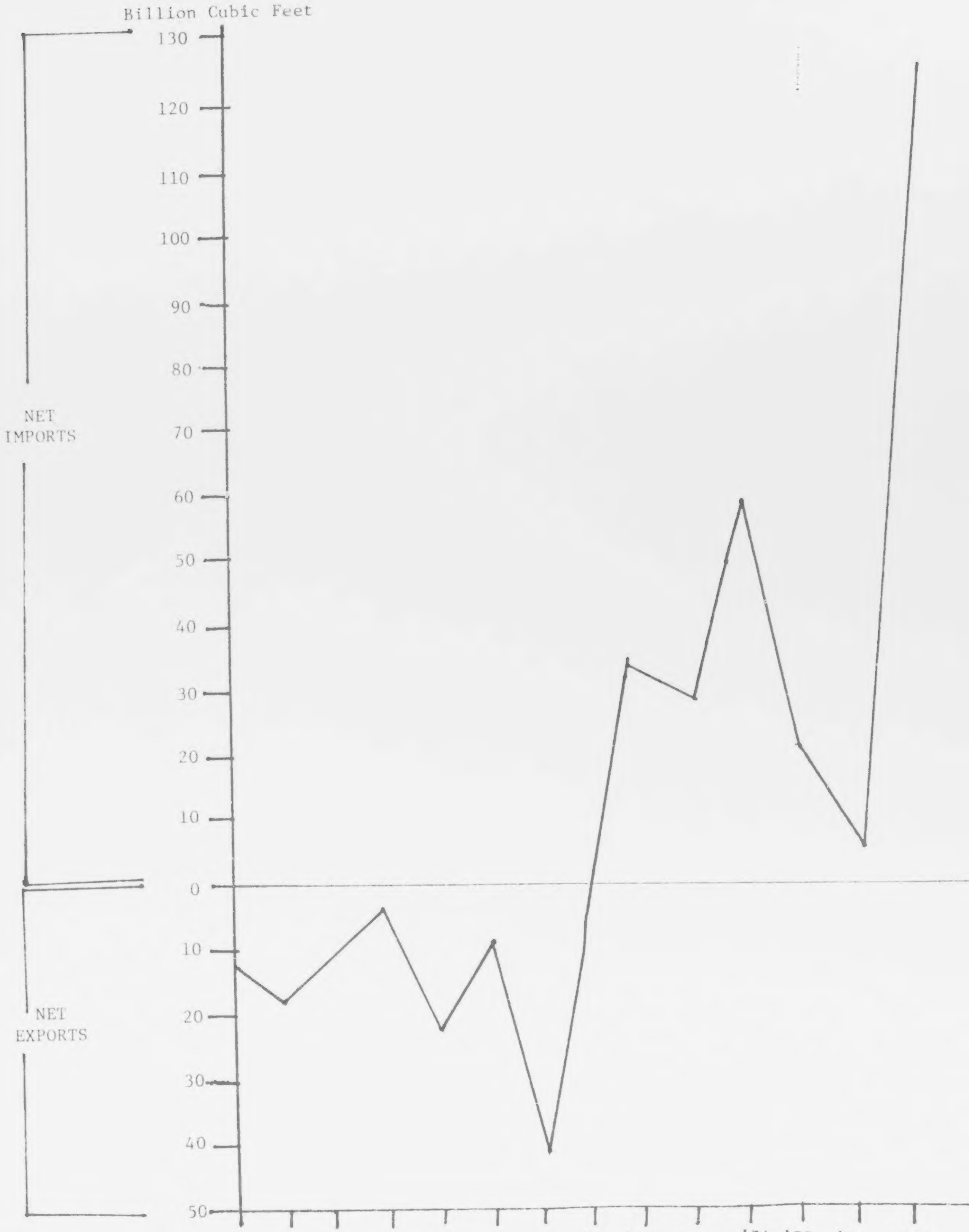
YEAR	NATURAL GAS PRODUCED IN WEST VIRGINIA	NATURAL GAS CONSUMPTION IN WEST VIRGINIA	NET EXPORTS*
1964	204,474,920	189,859,272	14,615,648
1965	210,166,218	191,932,652	18,233,566
1966	208,193,686	195,858,155	12,335,531
1967	214,195,750	218,277,025	4,081,275
1968	232,624,786	208,630,767	23,994,019
1969	223,324,639	213,770,389	9,554,250
1970	257,642,814	214,677,503	42,965,311
1971	227,341,618	220,022,575	7,319,043
1972	206,257,825	238,834,169	-32,576,344
1973	174,177,573	203,947,946	-29,770,373
1974	168,445,775	227,300,472	-58,854,697
1975	154,484,365**	172,703,393	-18,219,028
1976	157,219,442	161,201,472	-3,982,030
1977	156,020,969	278,748,178	-122,727,209

Source: West Virginia Public Service Commission - Annual Reports.

*Minus (-) denotes net imports.

**This number includes the production of 190 thousand cubic feet of liquified petroleum gas.

WEST VIRGINIA NET IMPORTS AND EXPORTS OF NATURAL GAS



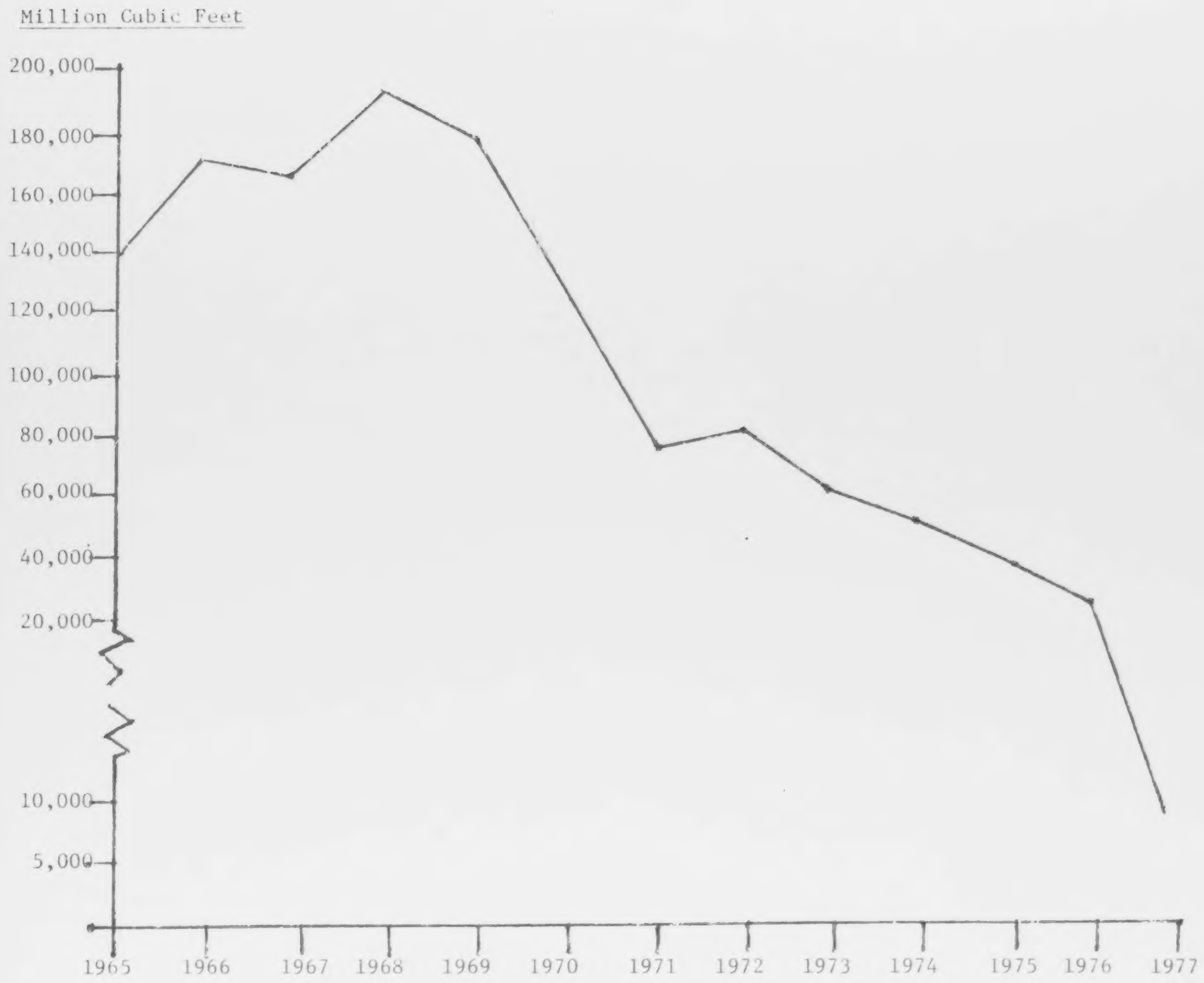
ULTIMATE RECOVERY OF NATURAL GAS
BY YEAR OF DISCOVERY IN WEST VIRGINIA

(Millions of Cubic Feet)

Year	Non-Associated	Associated-Dissolved	Total
1960	149,736	3,176	152,912
1961	163,524	3,402	166,926
1962	186,394	3,329	189,723
1963	155,297	1,588	156,885
1964	176,861	2,334	179,195
1965	139,338	1,363	140,701
1966	172,415	477	172,892
1967	165,002	186	165,188
1968	190,571	59	190,630
1969	177,917	0	177,917
1970	121,943	0	121,943
1971	74,642	0	74,642
1972	79,374	0	79,374
1973	60,231	9	60,240
1974	49,681	231	49,912
1975	36,831	10	36,841
1976	21,312	6	21,318
1977	9,025	0	9,025

Source: American Gas Association and American Petroleum Institute, Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977.

TOTAL ULTIMATE RECOVERY OF NATURAL GAS IN WEST VIRGINIA
(1965-1977)



NUMBER OF PRODUCING GAS WELLS IN WEST VIRGINIA
1960-1977

Year	Number of Producing Gas Wells
1960	14,500
1961	16,297
1962	17,121
1963	17,500
1964	17,960
1965	19,600
1966	20,830
1967	20,500
1968	18,214
1969	18,600
1970	20,702
1971	20,750
1972	21,100
1973	21,400
1974	21,450
1975	21,700
1976	22,100
1977	22,600

*Source: U. S. Bureau of Mines, The American Association of Petroleum Geologists and American Petroleum Institute.

MARKETED PRODUCTION AND AVERAGE WELLHEAD PRICE OF NATURAL GAS IN THE UNITED STATES AND IN WEST VIRGINIA 1960-1977

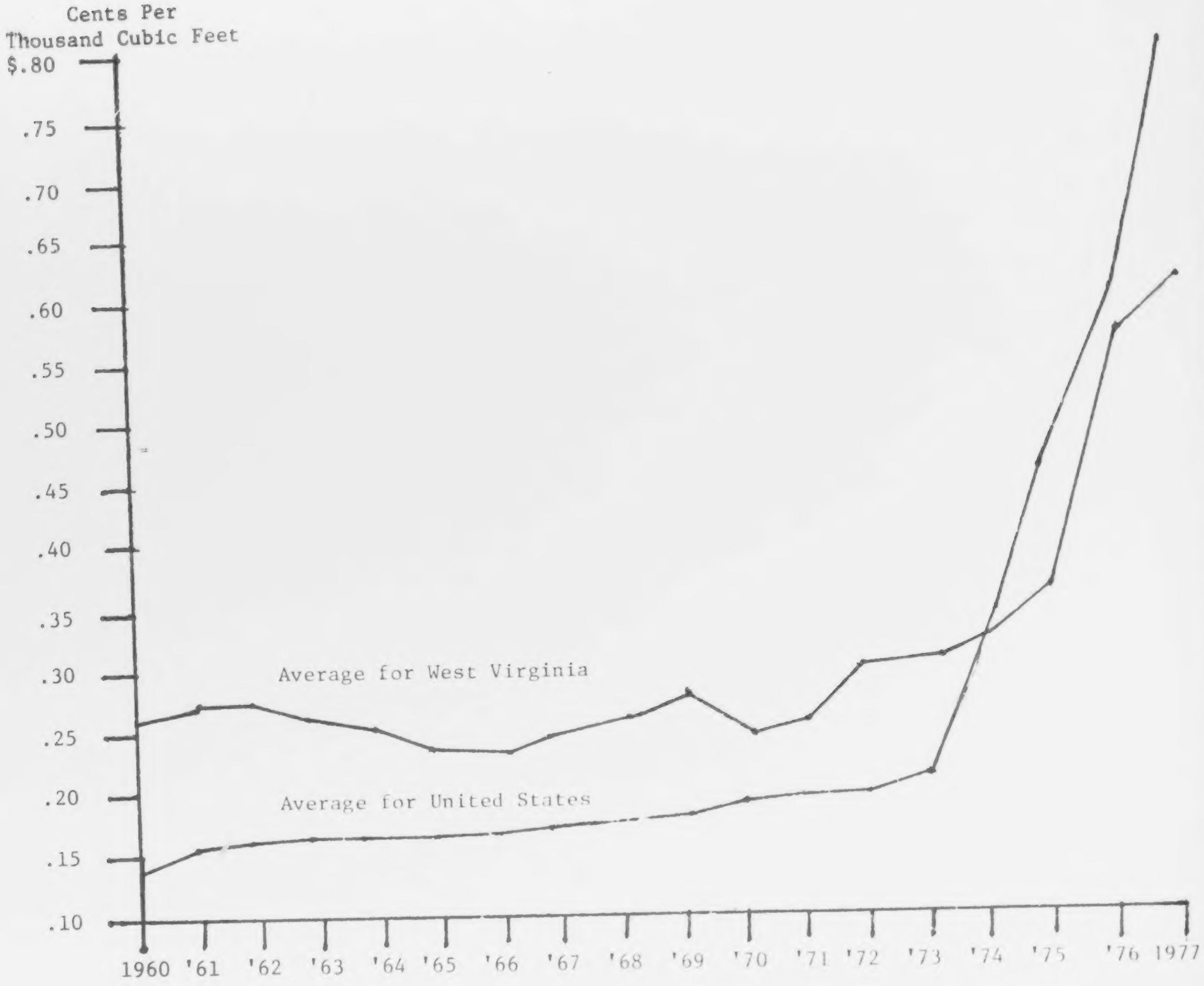
Year	United States Marketed Production (MMCF)	West Virginia Marketed Production (MMCF)	United States Average Wellhead Price (MCF)	West Virginia Average Wellhead Price (MCF)
1960	12,775,038	208,757	14.0	26.2
1961	13,254,025	210,556	15.1	27.4
1962	13,876,622	210,698	15.5	27.5
1963	14,746,663	210,223	15.8	26.6
1964	15,546,592	203,872	15.4	25.0
1965	16,039,753	207,416	15.6	23.5
1966	17,206,628	211,610	15.7	23.6
1967	18,171,325	211,400	16.0	24.1
1968	19,322,400	236,971	16.4	26.2
1969	20,698,240	231,789	16.7	27.0
1970	21,920,642	242,452	17.1	25.0
1971	22,493,012	234,027	18.2	25.9
1972	22,531,698	214,951	18.6	30.0
1973	22,647,549	208,676	21.6	30.9
1974	21,600,522	202,306	30.4	32.8
1975	20,108,661	154,484	44.5	36.9
1976	19,952,438	153,322	58.0	57.0
1977	20,025,463	152,767	79.0	61.0

MCF: Thousand Cubic Feet

MMCF: Million Cubic Feet

Source: American Gas Association. Gas Facts - 1977.

AVERAGE WELLHEAD PRICE OF NATURAL GAS IN
WEST VIRGINIA AND THE UNITED STATES
(1960-1977)



WEST VIRGINIA NATURAL GAS BALANCE SHEET* (1965-1977)
(Thousand Cubic Feet)

Supply

	1965	1966	1967	1968	1969	1970
Gas Produced in W. Va.	92,125,363	87,933,272	94,128,827	94,863,635	89,676,212	92,994,673
Gas Purchased	222,134,914	230,044,038	233,931,515	271,410,839	281,905,492	347,756,830
Gas Imports	617,438,666	656,229,398	670,041,731	681,666,941	730,248,080	790,157,932
Gas Received from Storage	124,867,220	132,901,011	124,969,097	156,727,126	152,787,234	145,101,125
Exchange Gas Received[1]	27,152,081	25,096,055	31,483,013	32,989,988	33,684,267	36,895,844
TOTAL SUPPLY	1,083,718,064	1,132,203,774	1,154,554,183	1,237,658,529	1,288,301,285	1,412,886,404

Demand

	1965	1966	1967	1968	1969	1970
Residential Sales	49,798,363	52,971,913	53,312,674	54,757,299	56,664,843	54,973,155
Commercial Sales	16,786,742	17,943,478	21,652,373	21,397,782	23,117,844	19,228,386
Industrial Sales	66,010,028	61,171,628	62,471,477	671,154,243	69,383,027	72,557,760
Sales to Utilities in W. Va.	119,736,138	133,247,929	133,695,438	153,202,436	167,823,046	211,014,579
Nonregulated Sales	73,978	322,663	2,699,224	7,873,592	5,258,212	1,929,295
Other Sales	1,022,674	850,235	765,656	3,255,623	3,901,696	4,216,152
Gas Exports	635,832,549	633,527,166	638,807,505	696,330,334	733,927,331	788,879,356
Gas Transferred to Storage	124,583,747	129,441,645	133,803,755	153,143,805	149,839,898	172,981,948
Exchange Gas Delivered[2]	26,743,373	24,837,681	62,360,599	34,555,755	33,715,851	36,604,801
Gathering and Shrinkage	43,130,472	47,889,436	44,985,482	47,640,743	44,669,537	50,500,992
TOTAL DEMAND	1,083,718,064	1,132,203,774	1,154,554,183	1,237,658,529	1,288,301,285	1,412,886,404

WEST VIRGINIA NATURAL GAS BALANCE SHEET* (1965-1977)
(Thousand Cubic Feet)
(Continued)

Supply

	1971	1972	1973	1974	1975	1976	1977
Gas Produced in W. Va.	78,951,133	73,869,751	69,960,521	73,333,075	66,557,942	65,685,988	64,994,974
Gas Purchased	338,764,977	210,730,453	184,332,780	179,816,741	154,200,892	161,443,468	145,953,420
Gas Imports	861,642,249	891,202,782	896,166,074	811,739,697	685,625,659	637,982,407	808,834,590
Gas Received from Storage	144,463,228	190,266,436	157,864,333	150,477,896	122,840,861	189,176,535	136,583,064
Exchange Gas Received[1]	37,238,916	31,984,917	28,383,520	25,895,397	26,866,681	25,681,886	30,828,815
TOTAL SUPPLY	1,461,060,503	1,398,054,339	1,336,707,229	1,241,262,806	1,056,092,035	1,079,970,284	1,187,194,863

Demand

	1971	1972	1973	1974	1975	1976	1977
Residential Sales	56,554,079	56,722,587	53,230,322	52,760,126	51,576,252	53,724,810	51,794,566
Commercial Sales	23,739,902	26,520,300	25,909,735	25,385,370	22,838,915	23,394,049	21,432,179
Industrial Sales	71,612,828	72,787,220	68,577,807	72,713,819	55,302,050	34,339,386	29,271,187
Sales to Utilities in W. Va.	207,891,276	102,507,753	94,769,506	98,660,383	74,133,225	81,399,750	59,929,396
Nonregulated Sales	4,603,854	4,260,862	4,263,436	4,327,820	3,244,553	27,862,761	19,189,561
Other Sales	1,213,545	1,832,817	1,789,248	1,725,604	1,256,286	911,251	2,965,182
Gas Exports	842,681,883	877,219,075	839,901,574	774,995,724	631,214,640	655,967,915	734,116,215
Gas Transferred to Storage	163,858,216	168,514,814	181,244,271	125,364,080	156,493,161	137,512,337	194,685,267
Exchange Gas Delivered[2]	36,182,815	32,094,339	28,258,331	26,107,480	7,701,935	25,933,191	29,542,434
Gathering and Shrinkage	52,722,105	55,594,572	38,762,999	59,222,400	52,331,018	38,924,834	44,268,876
TOTAL DEMAND	1,461,060,503	1,398,054,339	1,336,707,229	1,241,262,806	1,056,092,035	1,079,970,284	1,187,194,863

*This balance covers only those companies operating under the jurisdiction of the West Virginia Public Service Commission.

[1] Exchange Gas Received also includes: Gas Received for Transport to Other Companies; and Receipt of Respondent's Gas Transported or Compressed by Others.

[2] Exchange Gas Delivered also includes: Transport Gas Delivered to Other Companies; and Deliveries of Respondent's Gas for Transportation or Compression by Others.

Source: West Virginia Public Service Commission - Annual Reports.

WEST VIRGINIA PRODUCTION AND SALES OF NATURAL GAS BY COMPANY - 1977
(Thousand Cubic Feet)

	ABC GAS COMPANY	BAILEY GAS COMPANY	BAZZLE GAS COMPANY	BLACKSVILLE OIL AND GAS COMPANY, INC.	BLUEFIELD GAS COMPANY	THE BMW OIL AND GAS CORPORATION
1) Gas Produced in West Virginia	--	--	(1,505)	--	--	120
2) Imports Across State Lines	--	--	--	--	--	--
3) Net Storage	--	--	--	--	+23,144	--
4) Total Gas Available	12,153	44,848	19,135	38,663	1,344,192	120
5) Sales to Utilities in West Virginia	--	--	--	--	--	--
6) Exports Across State Lines	--	--	--	--	252,816	--
7) Total Sales Within West Virginia	11,227	31,427	4,564	32,161	954,232	120
A) Residential Sales	11,227	31,427	4,564	23,497	549,581	120
B) Commercial Sales	--	--	--	8,664	269,303	--
C) Industrial Sales	--	--	--	--	135,348	--
D) Other Sales to Public Authorities	--	--	--	--	--	--
E) Interdepartmental Sales	--	--	--	--	--	--
F) Other Sales	--	--	--	--	--	--

	CABOT CORPORATION	CAMERON GAS COMPANY	CARNEGIE NATURAL GAS COMPANY	COLUMBIA GAS COMPANY OF WEST VIRGINIA	COLUMBIA GAS TRANSMISSION CORPORATION*	CONSOLIDATED SUPPLY COMPANY
1) Gas Produced in West Virginia	3,296,969	64,749	1,461,213	79,756	25,432,673	31,447,136
2) Imports Across State Lines	2,992,211	--	4,114	4,550,248	680,847,411	107,991,030
3) Net Storage	+1,295,268	--	--	--	+25,421,203	+24,038,131
4) Total Gas Available	18,303,884	114,863	5,457,168	62,516,421	809,792,404	225,090,766
5) Sales to Utilities in West Virginia	1,365,654	--	206,958	1,643,377	53,489,947	76,806
6) Exports Across State Lines	--	--	3,377,005	--	614,906,308	90,060,718
7) Total Sales in West Virginia	10,549,100	113,155	162,872	40,731,321	--	42,455,425
A) Residential Sales	2,959,065	84,503	162,872	27,546,168	--	15,481,619
B) Commercial Sales	867,114	24,087	--	11,354,278	--	6,889,290
C) Industrial Sales	5,577,742	4,565	--	1,774,451	--	18,371,098
D) Other Sales to Public Authorities	--	--	--	--	--	--
E) Interdepartmental Sales	1,069,926	--	--	--	--	--
F) Other Sales	75,253	--	--	56,424	--	--

*Columbia Gas Transmission Corporation is treated as a utility for the purpose of these statistics.

WEST VIRGINIA PRODUCTION AND SALES OF NATURAL GAS BY COMPANY - 1977
(Thousand Cubic Feet)
(Continued)

	CONSUMER GAS UTILITY COMPANY	C. S. DILLION AND H. C. DILLION	EQUITABLE GAS COMPANY	HARPER HEIGHTS GAS COMPANY	INLAND GAS COMPANY, INC.
1) Gas Produced in West Virginia	1,880	507	584,762	--	--
2) Imports Across State Lines	--	--	9,936,319	--	400,318
3) Net Storage	--	--	+7,008,747	--	--
4) Total Gas Available	843,554	507	53,177,632	114,860	400,318
5) Sales to Utilities in West Virginia	--	--	8,740	--	--
6) Exports Across State Lines	--	--	25,391,816	--	--
7) Total Sales Within West Virginia	688,215	507	3,466,553	101,410	400,318
A) Residential Sales	407,073	507	1,577,637	101,410	819
B) Commercial Sales	281,142	--	523,958	--	--
C) Industrial Sales	--	--	1,364,958	--	399,499
D) Other Sales to Public Authorities	--	--	--	--	--
E) Interdepartmental Sales	--	--	--	--	--
F) Other Sales	--	--	--	--	--

	INTERSTATE UTILITIES COMPANY	LORA OIL AND GAS COMPANY	PENNZOIL UNITED, INC.	RAVENCLIFF FUEL AND SUPPLY COMPANY	SHENANDOAH GAS COMPANY
1) Gas Produced in West Virginia	--	15,707	2,496,514	--	--
2) Imports Across State Lines	83,719	--	--	--	2,029,220
3) Net Storage	--	--	--	--	--
4) Total Gas Available	89,385	36,251	4,394,137	52,371	2,029,220
5) Sales to Utilities in West Virginia	--	6,462	--	--	--
6) Exports Across State Lines	--	--	--	--	--
7) Total Sales Within West Virginia	80,700	22,013	834,046	52,371	1,956,012
A) Residential Sales	65,143	20,791	755,145	45,476	166,885
B) Commercial Sales	15,557	1,220	78,901	1,217	340,187
C) Industrial Sales	--	--	--	--	1,448,940
D) Other Sales to Public Authorities	--	--	--	--	--
E) Interdepartmental Sales	--	--	--	--	--
F) Other Sales	--	--	--	5,678	--

WEST VIRGINIA PRODUCTION AND SALES OF NATURAL GAS BY COMPANY - 1977
(Thousand Cubic Feet)
(Continued)

	SOUTHERN PUBLIC SERVICE COMPANY	SPENCER GAS COMPANY	STANDARD GAS COMPANY	UNION OIL AND GAS COMPANY	VALLEY GAS COMPANY
1) Gas Produced in West Virginia	--	--	109,458	2,057	2,978
2) Imports Across State Lines	--	--	--	--	--
3) Net Storage	--	--	--	-3,290	--
4) Total Gas Available	1,810,452	468,588	210,318	700,844	87,111
5) Sales to Utilities in West Virginia	--	--	49,703	--	--
6) Exports Across State Lines	--	--	--	--	--
7) Total Sales Within West Virginia	1,647,612	410,999	130,543	521,261	73,752
A) Residential Sales	1,127,744	193,178	40,609	368,820	39,661
B) Commercial Sales	401,163	217,821	14,053	107,958	34,091
C) Industrial Sales	118,705	--	75,881	--	--
D) Other Sales to Public Authorities	--	--	--	--	--
E) Interdepartmental Sales	--	--	--	--	--
F) Other Sales	--	--	--	--	--

**Note: Natural Gas Companies which did not file a 1977 annual report with the West Virginia Public Service Commission were: Ashford Gas Company; A. V. Company, Inc.; Harry C. Boggs Natural Gas Company; Indian Creek Gas Company, Inc.; Lake Washington Gas, Inc.; Lumberport-Shinnston Gas Company; Oceana Gas Company; Pineville Gas Company; Wayne Gas Company; Norman E. Wertz; and Wire Branch Gas Company.

***Source: West Virginia Public Service Commission - Annual Report 1977.

ANNUAL ESTIMATES OF PROVED NATURAL GAS RESERVES IN WEST VIRGINIA, 1945-1977
(Million Cubic Feet)

Year	Year-End Reserves			
	Non-Associated	Associated-Dissolved	Underground Storage	Total Gas
1945	1,808,425	109,403	a	1,917,828
1946	1,729,555	100,451	a	1,830,006
1947	1,676,082	94,981	a	1,771,063
1948	1,613,425	89,014	25,294	1,727,733
1949	1,578,487	85,036	42,394	1,705,917
1950	1,504,792	81,057	55,861	1,641,710
1951	1,496,196	76,731	89,495	1,662,422
1952	1,462,559	72,887	115,608	1,651,054
1953	1,420,667	59,180	165,112	1,644,959
1954	1,376,539	56,806	165,216	1,598,561
1955	1,325,438	55,811	175,151	1,556,400
1956	1,281,604	63,685	207,966	1,553,255
1957	1,255,416	65,674	231,363	1,552,453
1958	1,242,056	64,680	242,437	1,549,173
1959	1,263,723	64,282	256,891	1,584,896
1960	1,464,201	63,287	293,691	1,821,179
1961	1,621,969	62,293	323,775	2,008,037
1962	1,647,463	60,552	317,984	2,025,999
1963	1,930,259	60,802	320,103	2,311,164
1964	1,936,618	61,202	350,125	2,347,945
1965	2,078,623	60,843	354,557	2,494,023
1966	2,226,337	60,991	334,909	2,622,237
1967	2,174,935	58,602	346,449	2,579,986
1968	2,179,581	58,398	347,602	2,585,581
1969	2,050,917	58,044	338,363	2,447,324
1970	2,002,320	57,978	376,080	2,436,378
1971	1,962,281	56,777	392,726	2,411,784
1972	1,916,685	53,672	375,600	2,345,957
1973	1,912,318	52,319	355,191	2,319,828
1974	1,869,226	51,917	344,438	2,265,581
1975	1,887,516	50,853	372,967	2,311,336
1976	1,910,381	49,717	313,175	2,273,273
1977	1,951,887	48,535	375,433	2,375,855

a: Not estimated.

*Source: American Gas Association and American Petroleum Institute, _Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977_.

ANNUAL ESTIMATES OF PROVED NATURAL GAS
RESERVES IN WEST VIRGINIA 1945-1980

INPUTS, OUTPUTS, AND GAS IN UNDERGROUND STORAGE
IN WEST VIRGINIA
1960-1977
(Million Cubic Feet)

Year	Input to Storage	Output from Storage	Gas in Storage	Maximum Gas in Storage	Maximum Day Output
1960	148,830	124,767	259,401	296,830	1,729
1961	136,448	108,232	287,388	318,658	1,658
1962	129,259	135,073	281,556	325,490	1,749
1963	147,898	134,985	289,152	332,114	1,980
1964	119,651	118,332	306,073	389,965	1,736
1965	140,864	134,859	319,531	351,111	2,168
1966	149,052	155,327	313,023	355,775	2,337
1967	153,893	140,593	324,563	369,729	2,131
1968	173,777	172,624	325,717	373,124	2,338
1969	168,792	173,773	316,574	370,922	2,198
1970	198,845	163,843	354,290	381,728	2,462
1971	170,361	156,595	368,030	388,375	2,490
1972	165,296	183,385	350,903	389,203	2,662
1973	176,346	153,760	369,031	393,905	2,657
1974	125,857	147,739	362,748	402,214	2,177
1975	157,678	128,569	391,193	415,963	2,318
1976	138,767	194,046	331,287	414,618	2,942
1977	195,861	135,134	392,014	429,051	2,516

*Source: American Gas Association - The Underground Storage in the U.S. & Canada

Note: Natural Gas Storage figures are estimates and, therefore, do not necessarily correlate from one chart (source) to another.

INPUTS AND OUTPUTS OF NATURAL GAS IN UNDERGROUND STORAGE IN WEST VIRGINIA (1960-1977)

SUMMARY OF ACTUAL ANNUAL NATURAL GAS
LIQUIDS PRODUCTION IN WEST VIRGINIA

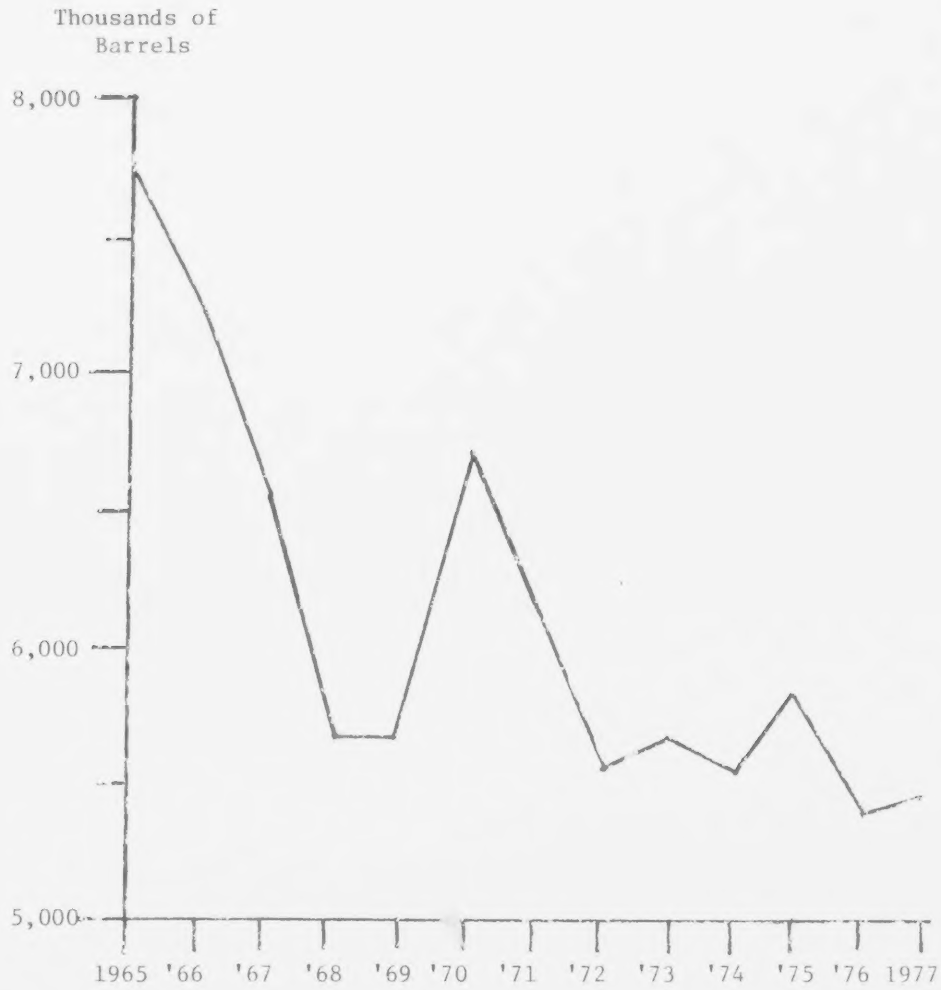
(Thousands of Barrels)

	Actual Annual Production	Cumulative Production
Year	Total N.G.L.	Total N.G.L.
1964	0	141,237
1965	7,704	148,941
1966	7,234	156,175
1967	6,624	162,799
1968	5,688	168,487
1969	5,688	174,175
1970	6,742	180,917
1971	6,123	187,040
1972	5,614	192,654
1973	5,651	198,305
1974	5,542	203,847
1975	5,720	209,567
1976	5,343	214,910
1977	5,470	220,380

*Note: No production of natural gas liquids was attributed to gas associated reserves.

**Source: American Gas Association and American Petroleum Institute, Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977.

ACTUAL ANNUAL NATURAL GAS LIQUIDS PRODUCTION IN WEST VIRGINIA



ANNUAL ESTIMATES OF PROVED NATURAL GAS LIQUIDS
RESERVES IN WEST VIRGINIA, 1945-1977

(Thousands of Barrels)

	Year-End Reserves		
Year	Non-Associated	Associated-Dissolved	Total NGL
1945	a	a	a
1946	19,285	0	19,285
1947	17,521	0	17,521
1948	15,214	0	15,214
1949	12,831	0	12,831
1950	8,976	0	8,976
1951	23,921	0	23,921
1952	19,528	0	19,528
1953	28,213	0	28,213
1954	33,994	0	33,994
1955	30,526	0	30,526
1956	26,741	0	26,741
1957	22,912	0	22,912
1958	63,286	0	63,286
1959	34,166	0	34,166
1960	44,734	0	44,734
1961	58,238	0	58,238
1962	58,859	0	58,859
1963	68,779	0	68,779
1964	69,774	0	69,774
1965	75,008	0	75,008
1966	80,760	0	80,760
1967	81,662	0	81,662
1968	83,627	0	83,627
1969	81,234	0	81,234
1970	81,507	0	81,507
1971	82,263	0	82,263
1972	82,084	0	82,084
1973	82,755	0	82,755
1974	81,755	0	81,755
1975	82,463	0	82,463
1976	83,833	0	83,833
1977	85,673	0	85,673

a: Not estimated

*Source: American Gas Association and American Petroleum Institute, Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977.

VALUE OF ENERGY RESOURCES PRODUCED IN WEST VIRGINIA 1963-1977
(Thousands of Dollars)

	1963	1964	1965	1966	1967
Coal	$634,572	$693,572	$726,096	$753,851	$800,683
Natural Gas	55,919	50,968	48,743	49,940	50,962
Petroleum	13,367	12,975	13,591	14,623	14,244

	1968	1969	1970	1971	1972
Coal	$755,720	$807,811	$1,142,245	$1,128,282	$1,235,000
Natural Gas	62,086	62,575	61,583	60,613	64,800
Petroleum	13,149	11,888	11,871	11,609	11,400

	1973	1974	1975	1976	1977
Coal	$1,340,338	$2,218,418	$2,765,000	$3,278,180	$3,475,000
Natural Gas	64,481	66,356	65,802	87,394	90,678
Petroleum	11,965	27,058	28,303	30,227	29,428

Source: U. S. Bureau of Mines - West Virginia State Liaison Program Office

WEST VIRGINIA ELECTRIC POWER GENERATION BY
FUEL SOURCE OR PRIME MOVER, 1963-1977
(Millions of Kilowatt Hours)

Year	Coal	Fuel Oil	Natural Gas	Hydro	Total Electric Utility Industry
1963	17,824	17	27	352	18,219
1964	18,446	18	38	387	18,889
1965	18,817	33	39	336	19,225
1966	22,735	56	37	391	23,219
1967	26,811	58	26	465	27,359
1968	31,229	72	34	418	31,753
1969	34,889	96	31	418	35,434
1970	34,928	247	35	437	35,647
1971	a	a	a	486	38,935
1972	a	a	a	534	49,000
1973	55,709	306	18	497	56,529
1974	60,363	643	22	477	61,505
1975	60,512	402	29	467	61,410
1976	65,676	385	23	419	66,503
1977	65,462	437	3	415	66,317

a: Data not available.

Source: Edison Electric Institute - Statistical Year Book.

STATEMENT OF PRODUCTION AND DISTRIBUTION OF ELECTRICITY IN WEST VIRGINIA
FOR 1976 AND 1977
(KILOWATT HOURS)

Line No.		TOTAL ALL COMPANIES 1976	TOTAL ALL COMPANIES 1977
1.	Generated in West Virginia*	31,253,770,000	30,813,597,000
2.	Purchases: From Non-Utilities in West Virginia	----	50,159,000
3.	Purchases: From Utilities in West Virginia	488,179,995	478,253,933
4.	Imports Across State Lines:		
5.	Company's Generation Outside West Virginia	2,810,598,000	2,361,909,000
6.	Purchases	2,377,563,962	2,071,182,120
7.	Own Company Interchange - In	19,569,819,235	21,309,069,859
8.	Total KWH Generated, Purchased & Interchange - In	56,499,931,192	57,084,170,912
9.	Sales to Other Utilities in West Virginia	1,378,230,207	1,350,798,003
10.	Exports Across State Lines:		
11.	Sales	78,466,000	85,094,000
12.	Own Company Interchange - Out	34,765,051,547	34,664,839,647
13.	Total Sales to Utilities, Exports & Interchange - Out	36,221,747,754	36,100,731,650
14.	Total Supply Available for West Virginia Purposes	20,278,183,438	20,983,439,262
15.	Company Use (Electric Department Only)	78,401,756	81,806,158
16.	Energy Furnished Without Charge	11,000	11,000
17.	Line Loss	2,064,661,151	1,794,571,019
18.	Total Company Use and Line Loss	2,143,073,907	1,876,388,177
19.	Total Supply for Ultimate Consumption in West Virginia	18,135,109,531	19,107,051,085
20.	Distribution:		
21.	Residential or Domestic Sales	5,125,447,963	5,688,981,630
22.	Rural Sales	----	----
23.	Commercial and Industrial Sales	12,922,581,662	13,328,852,537
24.	Public Street and Highway Lighting	60,917,800	62,585,309
25.	Private Street Lighting	37,589	----
26.	Other Sales to Public Authorities	25,346,453	25,779,776
27.	Interdepartmental Sales	----	----
28.	Sales to Municipal Electric Utilities	----	----
29.	Other Sales	778,064	851,833
30.	Total Distribution	18,135,109,531	19,107,051,085

*Generation in West Virginia does not include companies which own generating stations in West Virginia but do not sell power directly to West Virginia customers. See page for total generation tabulation.

Source: West Virginia Public Service Commission's Annual Report 1976 & 1977.

ELECTRIC UTILITIES SERVING WEST VIRGINIA - 1977

Rank and Company	Total Supply for Ultimate Consumption in West Virginia (Kilowatt Hours)	Counties Operating In	Average Number of Customers in West Virginia
1. Appalachian Power Company	9,095,267,280	Boone, Cabell, Clay, Fayette, Greenbrier, Jackson, Kanawha, Lincoln, Logan, McDowell, Mason, Mercer, Mingo, Monroe, Nicholas, Putnam, Raleigh, Roane, Summers, Wayne, Wyoming	347,027
2. Monongahela Power Company	6,586,647,000	Barbour, Braxton, Brooke, Calhoun, Clay, Doddridge, Fayette, Gilmer, Grant, Hancock, Harrison, Jackson, Lewis, Marion, Mineral, Monongalia, Nicholas, Pendleton, Pleasants, Pocahontas, Preston, Randolph, Ritchie, Roane, Taylor, Tucker, Tyler, Upshur, Webster, Wetzel, Wirt, Wood	259,416
3. Wheeling Electric Company	1,905,966,813	Marshall, Ohio	39,212
4. The Potomac Edison Company	1,081,512,348	Berkeley, Grant, Hampshire, Hardy, Jefferson, Mineral, Morgan	58,399
5. Virginia Electric Power Company	234,225,000	Greenbrier, Monroe, Summers	19,834
6. Preston Electric Company	39,460,000	Monongalia, Preston	3,384
7. Harrison Rural Electrification Association, Inc.	24,568,462	Harrison	4,298
8. New Martinsville Municipal Utilities	20,433,222	Wetzel	1,795

ELECTRIC UTILITIES SERVING WEST VIRGINIA - 1977
(Continued)

Rank and Company	Total Supply for Ultimate Consumption in West Virginia (Kilowatt Hours)	Counties Operating In	Average Number of Customers in West Virginia
9. Philippi Municipal Electric & Light Department	21,465,798	Barbour	1,575
10. Union Power Company	15,258,600	Wyoming	1,669
11. United Light and Power Company	14,519,000	McDowell, Wyoming	1,355
12. Black Diamond Power Company	13,619,600	Raleigh	1,573
13. Chesapeake Light & Power Company	11,801,790	Kanawha	1,292
14. War Light and Power Company	11,469,600	McDowell	1,320
15. Shenandoah Valley Electric Co-operative	9,234,421	Hardy	1,437
16. Elk Power Company	8,726,800	Clay	1,250
17. Kimball Light & Water Company	6,122,000	McDowell	658
18. Elkhorn Public Service Company	2,714,300	Monroe	284
19. Craig-Botetourt Electric Co-operative	2,458,834	McDowell	291
20. Standard Utility Service Corporation	1,580,217	Raleigh	190

*Source: Compiled from the Public Service Commission - Annual Report.

TOTAL GENERATION OF ELECTRICITY AND ELECTRICAL GENERATION CAPACITY IN WEST VIRGINIA BY COMPANY - 1978

PLANT	PLANT CAPACITY (MEGAWATTS)	UNITS (MEGAWATTS)	UNIT OWNERSHIP	INDIVIDUAL POWER COMPANY GENERATION AT PLANT (MEGAWATTS)	TOTAL PLANT GENERATION (MEGAWATTS)
Albright	292	Unit 1-76	Potomac Edison	434,508	
		Unit 2-76	Monongahela Power Company	1,393,210	1,827,718
		Unit 3-140	Monongahela Power Company		
Fort Martin	1,107	Unit 1-552	50% Duquesne Power & Light	1,153,668	
			25% Potomac Edison	1,483,553	
			25% Monongahela Power Company	1,181,314	
		Unit 2-555	30% Potomac Edison		
			20% Monongahela Power Company		
			50% West Penn Power	1,511,199	5,329,734
Harrison	1,920	Unit 1-640	Ownership of All Three Units:		
			25% Monongahela Power Company	2,973,675	
		Unit 2-640	25% Potomac Edison	2,973,675	
		Unit 3-640	50% West Penn Power	5,947,350	10,486,869
John Amos	2,900	Unit 1-800	Appalachian Power Company		
		Unit 2-800	Appalachian Power Company	11,562,173	16,868,299
		Unit 3-1300	1/3 Appalachian Power Company		
			2/3 Ohio Power Company	5,306,126	
Kammer	630	Unit 1-210	Ohio Power Company		
		Unit 2-210	Ohio Power Company	3,213,312	3,213,312
		Unit 3-210	Ohio Power Company		
Kanawha River	425	Unit 1-215	Appalachian Power Company	2,665,112	2,665,112
		Unit 2-210	Appalachian Power Company		
Lake Lynn	51.2	Hydro	West Penn Power Company	140,584	140,584
London	14.4	Hydro	Kanawha Valley Power Company	79,692	79,692
Marmet	14.4	Hydro	Kanawha Valley Power Company	70,699	70,699

TOTAL GENERATION OF ELECTRICITY AND ELECTRICAL GENERATION CAPACITY IN WEST VIRGINIA BY COMPANY - 1978
(Continued)

PLANT	PLANT CAPACITY (MEGAWATTS)	UNITS (MEGAWATTS)	UNIT OWNERSHIP	INDIVIDUAL POWER COMPANY GENERATION AT PLACT (MEGAWATTS)	TOTAL PLANT GENERATION (MEGAWATTS)
Mitchell	1,460	Unit 1-800	Ohio Power Company	8,011,306	8,011,306
		Unit 2-660	Ohio Power Company		
Mountaineer	1,300	Unit 1-1300	Appalachian Power Company	Unit under construction; commercial completion date December 1980.	
Mount Storm	1,697	Unit 1-565	Virginia Electric & Power Company	6,844,852	6,844,852
		Unit 2-565	Virginia Electric & Power Company		
		Unit 3-550	Virginia Electric & Power Company		
		Peaking-17	Virginia Electric & Power Company		
Philip Sporn	1,050	Unit 1-150	Appalachian Power Company	1,107,531	
		Unit 3-150	Appalachian Power Company		
		Unit 2-150	Ohio Power Company	3,388,457	4,495,988
		Unit 4-150	Ohio Power Company		
		Unit 5-450	Ohio Power Company		
Pleasants	1,206	Unit 1-580	Monongahela Power Company	Unit became commercial on March 31, 1979.	
		Unit 2-626	Monongahela Power Company	Unit under construction; commercial completion date late 1980.	
Rivesville	109	Unit 5-48	Monongahela Power Company	584,375	584,375
		Unit 6-94	Monongahela Power Company		
Willow Island	244	Unit 1-58	Monongahela Power Company	965,749	965,749
		Unit 2-186	Monongahela Power Company		
Winfield	14.76	Hydro	Kanawha Valley Power Company	100,538	100,538
			TOTAL AMOUNT OF ELECTRICITY GENERATED IN WEST VIRGINIA		61,684,827

Source: Information obtained from the individual utility companies and compiled by the Fuel and Energy Office.

WEST VIRGINIA ENERGY CONSUMPTION

Gross Energy Consumption

Fuels/Units	1960	1961	1962	1963	1964	1965	1966	1967	1968
Gasoline:									
Trillions of BTU	59.35	59.43	60.66	64.61	65.07	67.48	70.73	72.64	76.66
Millions of Gallons	474.97	475.61	485.43	517.07	520.74	540.01	566.09	581.33	613.48
Distillate Oil and Kerosene:									
Trillions of BTU	12.54	12.93	12.99	12.90	10.33	13.27	14.41	16.75	15.27
Millions of Barrels	2.16	2.23	2.24	2.22	1.78	2.28	2.48	2.90	2.63
Diesel Fuel:									
Trillions of BTU	3.36	3.17	2.93	3.68	4.19	4.96	5.97	6.83	8.53
Millions of Barrels	0.58	0.54	0.50	0.63	0.72	0.85	1.02	1.17	1.46
Residual Oil:									
Trillions of BTU	9.12	7.64	9.30	9.88	14.44	13.12	15.89	13.31	12.47
Millions of Barrels	1.45	1.22	1.48	1.57	2.30	2.09	2.53	2.12	1.98
Liquid Petroleum Gas:									
Trillions of BTU	1.21	1.50	2.52	1.91	1.66	2.32	1.81	1.63	2.17
Millions of Gallons	12.66	15.75	26.39	20.05	17.34	24.25	18.94	17.12	22.72
Jet Fuel:									
Trillions of BTU	0.71	0.60	0.59	0.51	0.53	0.54	0.76	0.88	1.13
Millions of Gallons	5.45	4.61	4.60	3.98	4.09	4.21	5.85	6.74	8.68
Natural Gas:									
Trillions of BTU	143.16	159.59	155.58	159.99	175.44	164.99	179.69	157.45	193.19
Billions of Cubic Feet	138.72	154.65	150.76	155.03	170.00	159.88	174.12	152.56	187.20
Anthracite and Bituminous Coal:									
Trillions of BTU	353.83	373.02	389.12	428.62	468.16	494.98	514.37	585.90	621.67
Millions of Short Tons	13.78	14.66	15.27	16.74	18.20	19.34	20.16	23.24	24.56
Nuclear and Hydro Electricity:									
Trillions of BTU	4.14	4.94	4.52	3.66	4.02	3.49	4.07	4.84	4.35
Billions of KWH	0.40	0.48	0.44	0.35	0.39	0.34	0.39	0.47	0.42
Other Fuels:									
Trillions of BTU	31.99	30.14	30.81	30.97	33.95	35.64	35.13	32.70	34.94
Total:									
Trillions of BTU	619.40	652.96	669.03	716.73	777.79	800.78	842.82	892.91	970.38
Electricity Purchased:									
Trillions of BTU	28.25	29.31	31.47	33.32	35.65	38.34	40.11	40.63	44.33
Billions of KWH	8.28	8.59	9.22	9.76	10.45	11.24	11.76	11.91	12.99
Percentages:									
Annual Changes in Total	0.0	5.42	2.46	7.13	8.52	2.96	5.25	5.94	8.68
State Total — to U.S. Total	1.45	1.51	1.46	1.50	1.55	1.53	1.52	1.51	1.56

WEST VIRGINIA ENERGY CONSUMPTION

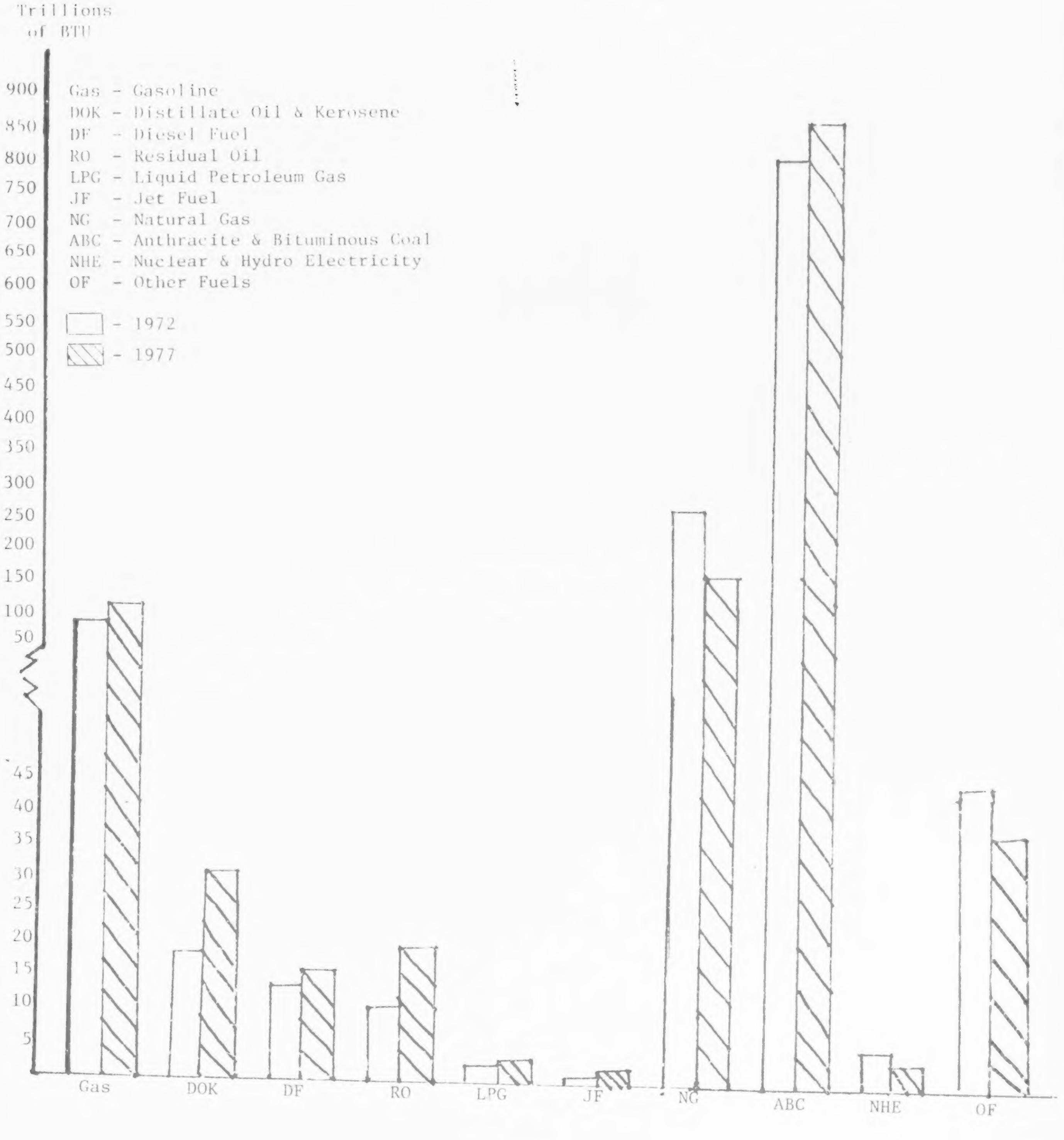
Gross Energy Consumption
(Continued)

Fuels/Units	1969	1970	1971	1972	1973	1974	1975	1976	1977
Gasoline:									
Trillions of BTU	79.22	83.80	87.66	90.70	97.42	95.92	101.86	109.06	112.74
Millions of Gallons	634.03	670.64	701.53	725.85	779.65	767.67	815.18	872.81	902.26
Distillate Oil and Kerosene:									
Trillions of BTU	15.22	13.58	14.29	19.96	20.02	18.21	27.26	30.26	37.49
Millions of Barrels	2.62	2.34	2.46	3.44	3.44	3.13	4.69	5.20	6.44
Diesel Fuel:									
Trillions of BTU	8.98	11.03	14.93	14.43	16.15	16.38	12.38	11.10	16.50
Millions of Barrels	1.54	1.89	2.56	2.48	2.77	2.81	2.12	1.90	2.83
Residual Oil:									
Trillions of BTU	12.42	12.98	11.98	10.99	9.10	10.74	10.61	26.07	25.39
Millions of Barrels	1.98	2.06	1.91	1.75	1.45	1.71	1.85	4.15	4.05
Liquid Petroleum Gas:									
Trillions of BTU	2.45	2.61	2.90	3.24	3.46	4.16	3.44	3.19	3.40
Millions of Gallons	25.65	27.35	30.41	33.97	36.19	43.53	36.03	33.45	35.60
Jet Fuel:									
Trillions of BTU	1.42	1.39	1.04	0.79	0.80	0.86	1.10	1.28	1.38
Millions of Gallons	10.85	10.61	7.95	6.09	6.15	6.56	8.42	9.76	10.55
Natural Gas:									
Trillions of BTU	175.01	196.44	163.66	236.17	210.11	211.25	162.25	145.58	170.66
Billions of Cubic Feet	169.58	190.35	158.59	228.84	203.59	204.70	157.22	141.07	165.37
Anchracite and Bituminous Coal:									
Trillions of BTU	617.29	618.26	664.65	805.44	812.03	829.46	829.18	882.59	859.98
Millions of Short Tons	24.36	24.39	26.61	32.46	32.37	33.84	34.40	36.62	35.68
Nuclear and Hydro Electricity:									
Trillions of BTU	4.37	4.59	5.09	5.54	5.16	4.95	4.85	4.35	4.31
Billions of KWH	0.42	0.44	0.49	0.53	0.50	0.48	0.47	0.42	0.41
Other Fuels:									
Trillions of BTU	41.61	41.95	41.99	44.69	44.83	43.54	38.31	39.62	38.35
Total:									
Trillions of BTU	958.00	986.62	1,008.20	1,231.96	1,219.08	1,235.46	1.192.24	1,253.10	1,270.20
Electricity Purchased:									
Trillions of BTU	47.53	50.11	51.08	53.54	56.98	58.74	57.84	61.89	65.10
Billions of KWH	13.93	14.69	14.97	15.69	16.70	17.22	16.95	18.14	19.09
Percentages:									
Annual Changes in Total	-1.28	2.99	2.19	22.19	-1.04	1.34	-3.50	5.10	1.36
State Total — to U.S. Total	1.46	1.44	1.45	1.68	1.62	1.69	1.67		

Source: Department of Energy

WEST VIRGINIA ENERGY CONSUMPTION

Gross Energy Consumption



WEST VIRGINIA ENERGY CONSUMPTION

Commercial Sector

Fuels/Units	1960	1961	1962	1963	1964	1965	1966	1967	1968
Gasoline:									
Trillions of BTU	0.33	0.35	0.36	0.34	0.30	0.35	0.32	0.29	0.29
Millions of Gallons	2.64	2.80	2.88	2.69	2.39	2.78	2.56	2.34	2.34
Distillate Oil:									
Trillions of BTU	0.02	0.05	0.05	0.05	0.04	0.04	0.05	0.05	0.04
Millions of Barrels	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
Residual Oil:									
Trillions of BTU	0.60	0.25	0.33	0.38	0.67	0.58	1.01	1.41	1.01
Millions of Barrels	0.10	0.04	0.05	0.06	0.11	0.09	0.16	0.23	0.16
Liquid Petroleum Gas:									
Trillions of BTU	0.11	0.14	0.22	0.17	0.14	0.13	0.11	0.09	0.12
Millions of Gallons	1.12	1.45	2.31	1.78	1.51	1.39	1.14	0.91	1.24
Natural Gas:									
Trillions of BTU	15.99	16.15	17.29	17.63	15.43	14.99	16.40	19.10	21.05
Billions of Cubic Feet	15.50	15.65	16.75	17.00	14.95	14.52	15.89	18.51	20.40
Anthracite and Bituminous Coal:									
Trillions of BTU	2.38	2.34	3.22	2.68	2.46	2.67	2.94	3.77	4.11
Millions of Short Tons	0.09	0.09	0.12	0.10	0.09	0.10	0.11	0.14	0.15
Electricity Purchased:									
Trillions of BTU	3.36	3.53	3.83	4.06	4.39	4.69	5.03	5.37	6.05
Billions of KWH	0.99	1.04	1.12	1.19	1.29	1.37	1.47	1.57	1.77
Asphalt and Road Oil:									
Trillions of BTU	6.42	5.44	5.68	5.00	6.02	6.49	5.37	3.62	5.73
Thousands of Short Tons	175.87	149.02	155.67	137.13	164.83	177.79	147.05	99.24	156.95
Total:									
Trillions of BTU	29.22	28.24	30.97	30.32	29.44	29.93	31.23	33.70	38.39
Percentages:									
Annual Changes in Total	0.0	-3.34	9.68	-2.12	-2.89	1.65	4.35	7.92	13.92
State Total — to U.S. Total	0.66	0.63	0.65	0.62	0.58	0.54	0.53	0.53	0.57

WEST VIRGINIA ENERGY CONSUMPTION

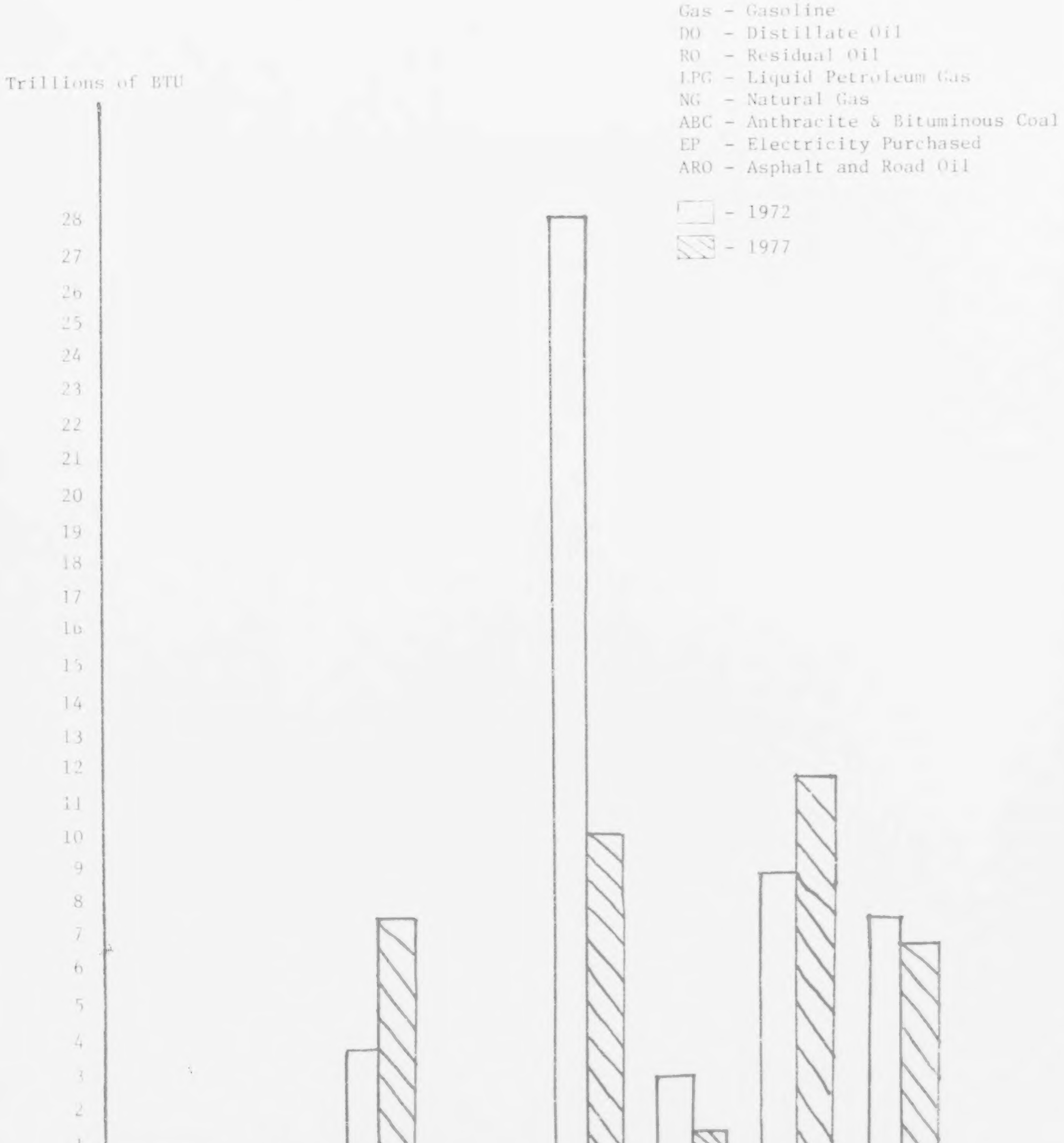
Commercial Sector
(Continued)

Fuels/Units	1969	1970	1971	1972	1973	1974	1975	1976	1977
Gasoline:									
Trillions of BTU	0.30	0.30	0.30	0.31	0.32	0.31	0.31	0.32	0.32
Millions of Gallons	2.37	2.39	2.43	2.47	2.54	2.48	2.49	2.56	2.56
Distillate Oil:									
Trillions of BTU	0.04	0.02	0.04	0.06	0.05	0.04	0.07	0.09	0.09
Millions of Barrels	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.02	0.02
Residual Oil:									
Trillions of BTU	1.20	3.53	4.04	3.51	2.56	1.11	3.62	7.67	7.26
Millions of Barrels	0.19	0.56	0.64	0.56	0.41	0.18	0.58	1.22	1.15
Liquid Petroleum Gas:									
Trillions of BTU	0.13	0.13	0.14	0.17	0.15	0.15	0.16	0.16	0.17
Millions of Gallons	1.39	1.31	1.44	1.77	1.59	1.53	1.63	1.64	1.75
Natural Gas:									
Trillions of BTU	22.22	22.37	23.85	27.51	26.68	25.37	25.57	21.12	9.86
Billions of Cubic Feet	21.53	21.68	23.11	26.65	25.85	24.59	24.78	20.46	9.56
Anthracite and Bituminous Coal:									
Trillions of BTU	2.61	2.35	2.52	2.75	2.93	3.67	1.70	1.08	1.14
Millions of Short Tons	0.09	0.08	0.08	0.09	0.10	0.13	0.06	0.04	0.03
Electricity Purchased:									
Trillions of BTU	6.70	7.38	7.88	8.54	9.25	9.29	10.01	10.62	11.45
Billions of KWH	1.96	2.16	2.31	2.50	2.71	2.72	2.93	3.11	3.36
Asphalt and Road Oil:									
Trillions of BTU	4.86	6.10	6.90	7.20	6.25	5.47	6.43	7.21	6.46
Thousands of Short Tons	133.14	167.07	189.12	197.25	171.31	149.95	176.31	197.69	177.13
Total:									
Trillions of BTU	38.06	42.18	45.66	50.04	48.19	45.41	47.86	48.27	36.75
Percentages:									
Annual Changes in Total	-0.86	10.81	8.27	9.58	-3.69	-5.77	5.38	0.86	-23.87
State Total — to U.S. Total	0.54	0.57	0.61	0.64	0.60	0.59	0.64		

Source: Department of Energy

WEST VIRGINIA ENERGY CONSUMPTION

Commercial Sector



WEST VIRGINIA ENERGY CONSUMPTION

Residential Sector

Fuels/Units	1960	1961	1962	1963	1964	1965	1966	1967	1968
Distillate Oil and Kerosene:									
Trillions of BTU	3.89	5.89	6.18	6.27	4.57	5.02	6.55	9.15	5.66
Millions of Barrels	0.68	1.02	1.07	1.08	0.79	0.87	1.13	1.59	0.98
Liquid Petroleum Gas:									
Trillions of BTU	0.96	1.25	1.99	1.53	1.30	1.19	0.98	0.78	1.07
Millions of Barrels	10.06	13.07	20.83	15.98	13.62	12.47	10.25	8.17	11.19
Natural Gas:									
Trillions of BTU	51.29	50.75	51.23	53.88	53.50	51.23	54.53	51.81	56.41
Billions of Cubic Feet	49.70	49.17	49.64	52.21	51.84	49.64	52.04	50.20	54.66
Anthracite and Bituminous Coal:									
Trillions of BTU	4.42	4.34	5.97	4.99	4.56	4.95	5.47	7.00	7.63
Millions of Short Tons	0.16	0.16	0.22	0.18	0.17	0.18	0.20	0.25	0.28
Electricity Purchased:									
Trillions of BTU	5.26	5.58	5.94	6.24	6.73	7.17	7.80	8.39	9.24
Billions of KWH	1.54	1.64	1.74	1.83	1.97	2.10	2.29	2.46	2.71
Total:									
Trillions of BTU	65.83	67.80	71.31	72.90	70.66	69.56	75.33	77.12	80.02
Percentages:									
Annual Changes in Total	0.00	2.99	5.17	2.23	-3.08	-1.54	8.29	2.37	3.76
State Total — to U.S. Total	0.92	0.92	0.92	0.93	0.88	0.83	0.87	0.85	0.85

WEST VIRGINIA ENERGY CONSUMPTION

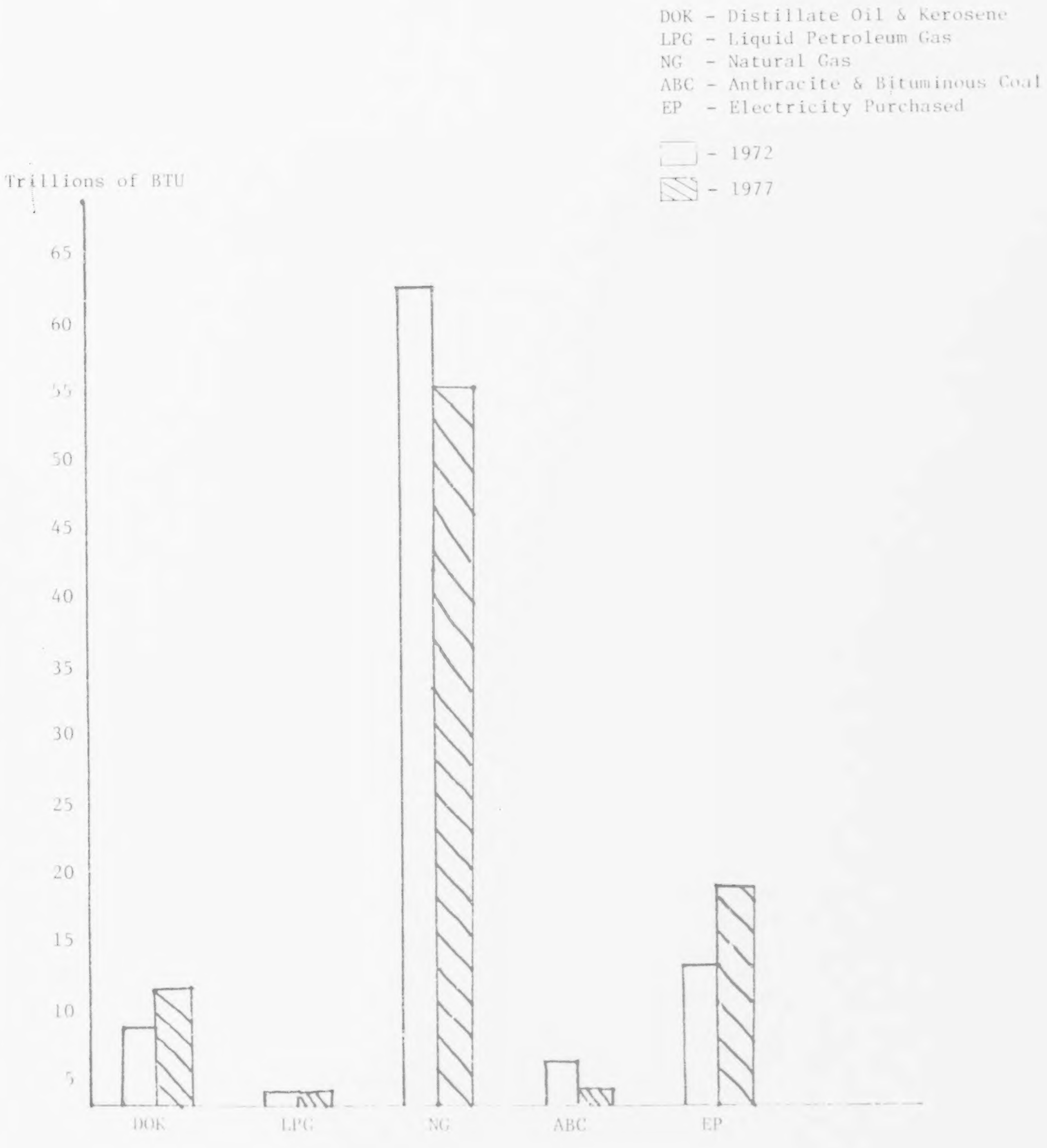
Residential Sector
(Continued)

Fuels/Units	1969	1970	1971	1972	1973	1974	1975	1976	1977
Distillate Oil and Kerosene:									
Trillions of BTU	5.64	3.72	5.88	7.71	7.04	6.20	8.36	10.45	10.57
Millions of Barrels	0.98	0.65	1.02	1.33	1.22	1.07	1.44	1.80	1.82
Liquid Petroleum Gas:									
Trillions of BTU	1.20	1.13	1.24	1.52	1.36	1.31	1.40	1.41	1.50
Millions of Barrels	12.54	11.82	13.00	15.94	14.29	13.75	14.71	14.76	15.71
Natural Gas:									
Trillions of BTU	58.17	59.83	57.41	61.43	57.47	55.51	52.94	53.08	53.26
Billions of Cubic Feet	56.37	57.97	55.63	59.52	55.69	53.79	51.30	51.43	51.61
Anthracite and Bituminous Coal:									
Trillions of BTU	4.85	4.37	4.68	5.11	5.32	6.71	3.10	1.99	2.09
Millions of Short Tons	0.17	0.15	0.16	0.18	0.18	0.23	0.11	0.07	0.08
Electricity Purchased:									
Trillions of BTU	10.26	11.35	12.23	13.25	14.60	15.50	16.59	17.47	19.31
Billions of KWH	3.01	3.33	3.58	3.88	4.28	4.54	4.86	5.12	5.66
Total:									
Trillions of BTU	80.11	80.40	81.44	89.02	85.79	85.23	82.39	84.45	86.77
Percentages:									
Annual Changes in Total	0.11	0.36	1.29	9.31	-3.63	-0.64	-3.33	2.50	2.75
State Total — to U.S. Total	0.81	0.80	0.80	0.84	0.83	0.86	0.83		

Source: Department of Energy

WEST VIRGINIA ENERGY CONSUMPTION

Residential Sector



WEST VIRGINIA ENERGY CONSUMPTION

Industrial Sector

Fuels/Units	1960	1961	1962	1963	1964	1965	1966	1967	1968
Gasoline:									
Trillions of BTU	1.03	0.91	0.93	0.91	0.84	0.81	0.77	0.76	0.72
Millions of Gallons	8.28	7.25	7.48	7.30	6.73	6.52	6.15	6.06	5.74
Distillate Oil:									
Trillions of BTU	1.63	1.19	1.31	1.51	1.63	2.80	2.71	3.45	3.92
Millions of Barrels	0.28	0.21	0.23	0.26	0.28	0.48	0.46	0.59	0.67
Diesel Fuel:									
Trillions of BTU	0.24	0.39	0.58	0.86	0.56	1.30	1.43	1.86	2.63
Millions of Barrels	0.04	0.07	0.10	0.15	0.10	0.22	0.25	0.32	0.45
Residual Oil:									
Trillions of BTU	8.29	7.21	8.77	9.27	13.52	12.09	14.25	10.79	10.14
Millions of Barrels	1.32	1.15	1.39	1.47	2.15	1.92	2.27	1.72	1.61
Liquid Petroleum Gas:									
Trillions of BTU	0.14	0.11	0.29	0.20	0.20	0.98	0.72	0.76	0.98
Millions of Gallons	1.44	1.18	3.02	2.13	2.09	10.31	7.52	8.00	10.28
Natural Gas:									
Trillions of BTU	74.90	91.93	78.24	78.44	91.33	79.24	89.45	68.65	97.57
Billions of Cubic Feet	72.58	89.08	75.82	76.01	88.49	76.78	86.68	66.52	94.55
Coal (Excluding Coking Coal):									
Trillions of BTU	93.13	101.95	111.08	127.66	142.04	134.49	138.81	145.44	152.11
Millions of Short Tons	3.44	3.82	4.12	4.73	5.22	4.92	5.06	5.30	5.50
Coking Coal and Petroleum Coke:									
Trillions of BTU	111.37	110.70	102.95	122.80	137.59	146.66	140.21	131.89	132.95
Electricity Purchased:									
Trillions of BTU	19.63	20.19	21.70	23.02	24.53	26.49	27.28	26.88	29.04
Billions of KWH	5.75	5.92	6.36	6.75	7.19	7.76	7.99	7.88	8.51
Feedstocks:									
Trillions of BTU	25.57	24.70	25.12	25.97	27.93	29.15	29.76	29.07	29.22
Millions of Barrels	4.28	4.14	4.21	4.35	4.67	4.88	4.98	4.88	4.91
Total:									
Trillions of BTU	335.94	359.29	350.98	390.64	440.17	434.04	445.38	419.56	459.27
Percentages:									
Annual Changes in Total	0.0	6.95	-2.31	11.30	12.68	-1.39	2.61	-5.80	9.46
State Total — to U.S. Total	2.14	2.30	2.16	2.28	2.43	2.32	2.26	2.01	2.11

WEST VIRGINIA ENERGY CONSUMPTION

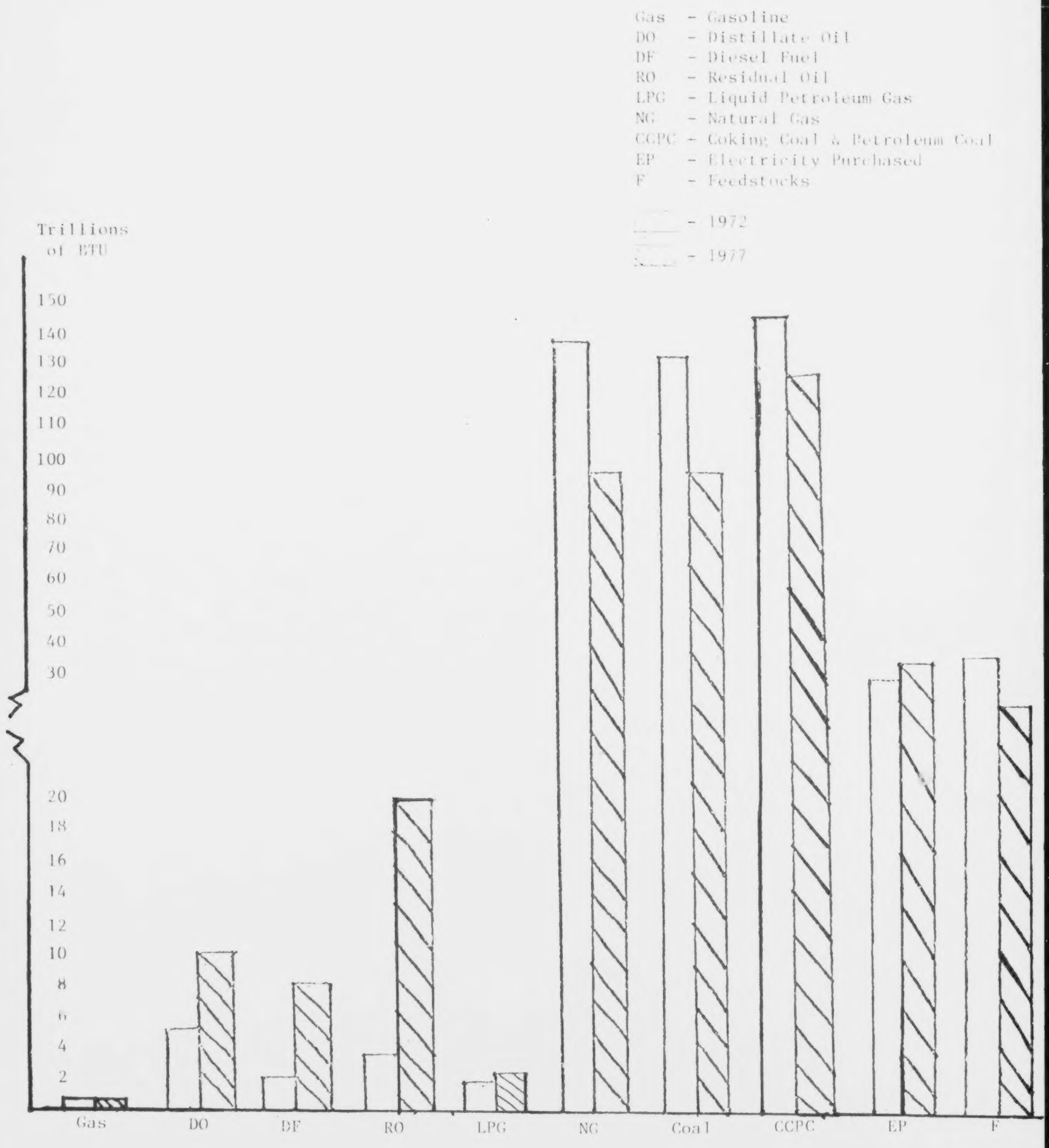
Industrial Sector
(Continued)

Fuels/Units	1969	1970	1971	1972	1973	1974	1975	1976	1977
Gasoline:									
Trillions of BTU	0.68	0.60	0.51	0.46	0.46	0.49	0.41	0.39	0.43
Millions of Gallons	5.40	4.83	4.07	3.71	3.64	3.92	3.30	3.15	3.43
Distillate Oil:									
Trillions of BTU	4.14	3.67	4.02	4.81	4.45	1.58	4.69	6.54	9.33
Millions of Barrels	0.71	0.63	0.69	0.83	0.76	0.27	0.80	1.12	1.60
Diesel Fuel:									
Trillions of BTU	2.36	2.73	1.47	1.83	2.03	1.63	2.00	2.45	7.60
Millions of Barrels	0.41	0.47	0.25	0.31	0.35	0.28	0.34	0.42	1.30
Residual Oil:									
Trillions of BTU	9.83	6.70	5.05	3.43	2.87	2.50	8.00	18.40	18.14
Millions of Barrels	1.56	1.07	0.80	0.55	0.46	0.40	1.27	2.93	2.88
Liquid Petroleum Gas:									
Trillions of BTU	1.11	1.34	1.51	1.53	1.92	2.68	1.86	1.61	1.71
Millions of Gallons	11.62	14.03	15.79	15.98	20.06	28.02	19.46	16.84	17.89
Natural Gas:									
Trillions of BTU	93.83	105.36	71.62	131.49	107.46	113.78	68.87	56.79	92.27
Billions of Cubic Feet	90.92	102.10	69.40	127.42	104.13	110.26	66.73	55.03	89.41
Coal (Excluding Coking Coal):									
Trillions of BTU	144.66	141.71	138.12	127.36	133.65	128.54	92.36	78.72	92.12
Millions of Short Tons	5.14	4.76	4.59	4.39	4.38	4.34	3.30	2.80	3.29
Coking Coal and Petroleum Coke:									
Trillions of BTU	137.75	137.16	116.72	136.19	140.29	137.89	120.99	142.92	122.61
Electricity Purchased:									
Trillions of BTU	30.57	31.37	30.97	31.76	33.13	33.95	31.24	33.80	34.34
Billions of KWH	8.96	9.19	9.08	9.31	9.71	9.95	9.16	9.91	10.06
Feedstocks:									
Trillions of BTU	36.75	35.85	35.09	37.49	38.57	38.07	31.87	32.41	31.89
Millions of Barrels	6.20	6.05	5.92	6.32	6.51	6.43	5.40	5.47	5.39
Total:									
Trillions of BTU	461.69	466.50	405.08	476.36	464.83	461.10	362.29	373.99	410.40
Percentages:									
Annual Changes in Total	0.53	1.04	-13.17	17.60	-2.42	-0.80	-21.27	0.28	9.74
State Total — to U.S. Total	2.01	2.00	1.76	2.00	1.87	1.91	1.68		

Source: Department of Energy

WEST VIRGINIA ENERGY CONSUMPTION

Industrial Sector



WEST VIRGINIA ENERGY CONSUMPTION

Electric Utilities Sector

Fuels/Units	1960	1961	1962	1963	1964	1965	1966	1967	1968
Distillate Oil:									
Trillions of BTU	0.0	0.0	0.0	0.0	0.01	0.0	0.0	0.0	0.13
Millions of Barrels	0.0	0.0	0.0	0.0	0.00	0.0	0.0	0.0	0.02
Residual Oil:									
Trillions of BTU	0.21	0.17	0.20	0.19	0.22	0.45	0.63	0.65	0.82
Millions of Barrels	0.03	0.03	0.03	0.03	0.03	0.07	0.10	0.10	0.13
Natural Gas:									
Trillions of BTU	0.97	0.76	0.78	0.65	0.92	0.96	0.92	0.64	0.82
Billions of Cubic Feet	0.94	0.74	0.76	0.63	0.89	0.93	0.89	0.62	0.79
Anthracite and Bituminous Coal:									
Trillions of BTU	142.53	153.69	165.90	170.49	181.51	206.20	226.94	297.79	324.87
Millions of Short Tons	5.96	6.49	7.00	7.18	7.63	8.70	9.59	12.67	13.71
Nuclear Electricity:									
Trillions of BTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Billions of KWH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hydro Electricity:									
Trillions of BTU	4.14	4.94	4.52	3.66	4.02	3.49	4.07	4.84	4.35
Billions of KWH	0.40	0.48	0.44	0.35	0.39	0.34	0.39	0.47	0.42
Total:									
Trillions of BTU	147.84	159.56	171.41	175.00	186.68	211.11	232.56	303.92	330.99
Total Electric Sales:									
Trillions of BTU	28.25	29.31	31.47	33.32	35.65	38.34	40.11	40.63	44.33
Billions of KWH	8.28	8.59	9.22	9.76	10.45	11.24	11.76	11.91	12.99
Percentages:									
Annual Changes in Total	0.0	7.92	7.43	2.09	6.68	13.09	10.16	30.69	8.91
State Total — to U.S. Total	1.83	1.91	1.90	1.82	1.80	1.91	1.93	2.31	2.40

WEST VIRGINIA ENERGY CONSUMPTION

Electric Utilities Sector
(Continued)

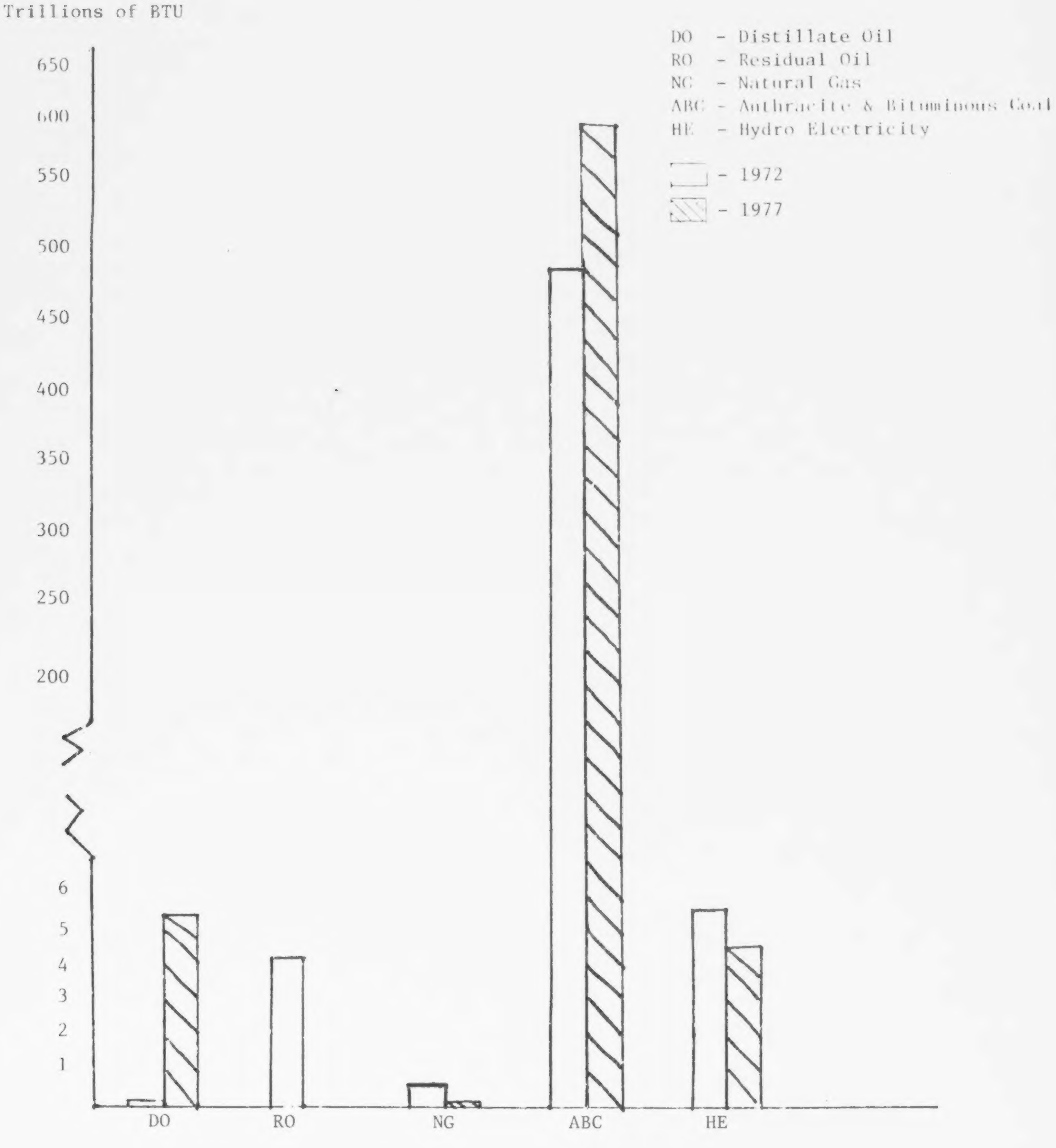
Fuels/Units	1969	1970	1971	1972	1973	1974	1975	1976	1977
Distillate Oil:									
Trillions of BTU	0.17	0.01	0.02	0.07	0.10	0.83	4.12	4.46	5.34
Millions of Barrels	0.03	0.00	0.00	0.01	0.02	0.14	0.71	0.77	0.92
Residual Oil:									
Trillions of BTU	1.23	2.72	2.90	4.04	3.67	7.14	0.0	0.0	0.0
Millions of Barrels	0.20	0.43	0.46	0.64	0.58	1.14	0.0	0.0	0.0
Natural Gas:									
Trillions of BTU	0.78	0.73	0.40	0.47	0.41	0.39	0.37	0.30	0.03
Billions of Cubic Feet	0.76	0.71	0.39	0.46	0.39	0.38	0.36	0.29	0.03
Anthracite and Bituminous Coal:									
Trillions of BTU	327.43	332.86	402.62	534.03	529.84	552.65	611.15	657.72	641.93
Millions of Short Tons	13.85	14.33	17.46	22.75	22.52	24.04	26.35	27.39*	26.74*
Nuclear Electricity:									
Trillions of BTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Billions of KWH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hydro Electricity:									
Trillions of BTU	4.37	4.59	5.09	5.54	5.16	4.95	4.85	4.35	4.31
Billions of KWH	0.42	0.44	0.49	0.53	0.50	0.48	0.47	0.42	0.41
Total:									
Trillions of BTU	333.90	340.70	411.03	544.16	539.18	565.96	620.49	666.83	651.61
Total Electric Sales:									
Trillions of BTU	47.53	50.11	51.08	53.54	56.98	58.74	57.84	61.89	65.10
Billions of KWH	13.93	14.69	14.97	15.69	16.70	17.22	16.95	18.14	19.08
Percentages:									
Annual Changes in Total	0.90	2.01	20.64	32.39	-0.92	4.97	9.64	7.47	-2.28
State Total — to U.S. Total	2.21	2.07	2.37	2.86	2.73	2.87	3.00		

*Assumes conversion rate of 24,010 BTU per short ton.

Source: Department of Energy

WEST VIRGINIA ENERGY CONSUMPTION

Electric Utilities Sector



WEST VIRGINIA ENERGY CONSUMPTION

Transportation Sector

Fuels/Units	1960	1961	1962	1963	1964	1965	1966	1967	1968
Gasoline (Excluding Aviation Gas):									
Trillions of BTU	57.52	58.03	59.33	62.80	63.46	65.87	69.12	71.15	75.24
Millions of Gallons	460.36	464.44	474.85	502.62	507.86	527.16	553.13	569.40	602.18
Aviation Gasoline:									
Trillions of BTU	0.46	0.14	0.03	0.56	0.47	0.44	0.53	0.44	0.40
Millions of Gallons	3.70	1.12	0.23	4.46	3.76	3.53	4.24	3.53	3.22
Distillate and Highway Diesel Oil:									
Trillions of BTU	10.11	8.59	7.80	7.88	7.73	9.06	9.65	9.07	11.42
Millions of Barrels	1.73	1.47	1.34	1.39	1.33	1.55	1.66	1.56	1.96
Residual Oil:									
Trillions of BTU	0.02	0.02	0.0	0.04	0.03	0.0	0.0	0.45	0.50
Millions of Barrels	0.00	0.00	0.0	0.01	0.00	0.0	0.0	0.07	0.08
Liquid Petroleum Gas:									
Trillions of BTU	0.03	0.03	0.13	0.10	0.07	0.05	0.02	0.02	0.01
Millions of Gallons	0.32	0.27	1.39	1.01	0.75	0.52	0.21	0.25	0.10
Natural Gas:									
Trillions of BTU	0.0	0.0	8.05	9.39	14.27	18.57	18.38	17.24	17.34
Billions of Cubic Feet	0.0	0.0	7.80	9.10	13.83	17.99	17.81	16.71	16.80
Jet Fuel:									
Trillions of BTU	0.71	0.60	0.59	0.51	0.53	0.54	0.76	0.88	1.13
Millions of Gallons	5.45	4.61	4.60	3.98	4.09	4.21	5.85	6.74	8.68
Electricity Purchased:									
Trillions of BTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Billions of KWH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total:									
Trillions of BTU	68.85	67.40	75.93	81.28	86.55	94.53	98.46	99.26	106.04
Percentages:									
Annual Changes in Total	0.0	-2.10	12.66	7.04	6.49	9.22	4.15	0.81	6.84
State Total — to U.S. Total	0.71	0.68	0.71	0.73	0.74	0.78	0.77	0.73	0.72

WEST VIRGINIA ENERGY CONSUMPTION

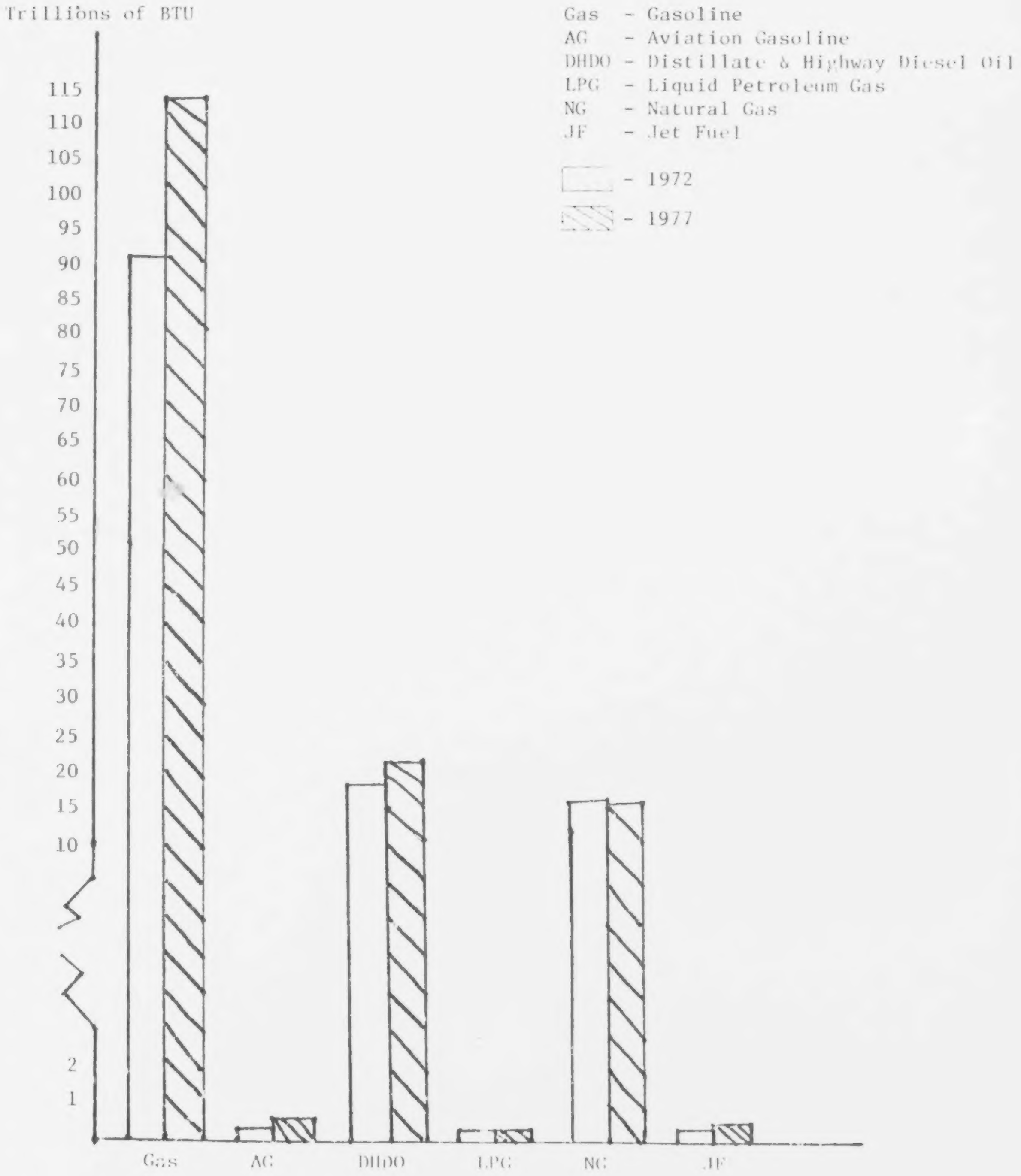
Transportation Sector
(Continued)

Fuels/Units	1969	1970	1971	1972	1973	1974	1975	1976	1977
Gasoline (Excluding Aviation Gas):									
Trillions of BTU	77.99	82.68	86.65	89.74	96.44	94.91	100.90	108.09	111.72
Millions of Gallons	624.17	661.67	693.48	718.22	771.82	759.54	807.47	865.02	894.09
Aviation Gasoline:									
Trillions of BTU	0.26	0.22	0.19	0.18	0.21	0.21	0.24	0.26	0.27
Millions of Gallons	2.08	1.76	1.56	1.45	1.66	1.72	1.91	2.12	2.18
Distillate and Highway Diesel Oil:									
Trillions of BTU	11.85	14.46	17.78	19.92	22.51	24.31	20.39	17.36	21.05
Millions of Barrels	2.03	2.48	3,05	3.42	3.86	4.17	3.50	2.98	3.61
Residual Oil:									
Trillions of BTU	0.16	0.03	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Millions of Barrels	0.02	0.00	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Liquid Petroleum Gas:									
Trillions of BTU	0.05	0.11	0.11	0.17	0.15	0.14	0.14	0.15	0.16
Millions of Gallons	0.57	1.18	1.14	1.76	1.60	1.50	1.47	1.53	1.62
Natural Gas:									
Trillions of BTU	0.0	8.15	10.39	15.27	18.09	16.19	14.51	14.30	15.24
Billions of Cubic Feet	0.0	7.90	10.06	14.79	17.53	15.68	14.06	13.86	14.77
Jet Fuel:									
Trillions of BTU	1.42	1.39	1.04	0.79	0.80	0.86	1.10	1.28	1.38
Millions of Gallons	10.85	10.61	7.95	6.09	6.15	6.56	8.42	9.76	10.55
Electricity Purchased:									
Trillions of BTU	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Billions of KWH	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total:									
Trillions of BTU	91.74	107.05	116.16	126.07	138.20	136.62	137.28	141.45	149.82
Percentages:									
Annual Changes in Total	-13.49	16.69	8.52	8.53	9.63	-1.14	0.48	3.04	8.37
State Total — to U.S. Total	0.60	0.67	0.70	0.72	0.75	0.77	0.76		

Source: Department of Energy

WEST VIRGINIA ENERGY CONSUMPTION

Transportation Sector



WEST VIRGINIA ENERGY FUEL PRICES BY SECTOR/UNITS
(In Current $)

	1960	1961	1962	1963	1964	1965	1966	1967	1968
Gasoline:									
Service Station (cents/gallon)	31.32	31.73	31.15	30.90	30.48	31.65	31.90	32.73	33.54
Distillate Oil:									
Residential (dollars/mill. BTU)	1.05	1.07	1.07	1.07	1.07	1.08	1.09	1.13	1.15
Residential (cents/gallon)	14.60	14.79	14.88	14.87	14.89	15.05	15.14	15.63	15.91
Commercial (dollars/mill. BTU)	0.96	0.99	0.98	0.98	0.97	0.98	0.99	1.03	1.05
Commercial (cents/gallon)	13.34	13.68	13.62	13.60	13.42	13.60	13.76	14.24	14.51
Industrial (dollars/mill. BTU)	0.96	0.98	0.98	0.97	0.96	0.97	0.99	1.02	1.04
Industrial (cents/gallon)	13.26	13.60	13.53	13.51	13.32	13.50	13.67	14.14	14.42
Residual Oil:									
Commercial (dollars/mill. BTU)	0.37	0.38	0.36	0.35	0.35	0.35	0.41	0.41	0.42
Commercial (dollars/bbl)	2.30	2.37	2.26	2.22	2.21	2.21	2.59	2.59	2.62
Industrial (dollars/mill. BTU)	0.36	0.37	0.36	0.35	0.35	0.35	0.41	0.41	0.41
Industrial (dollars/bbl)	2.28	2.36	2.25	2.20	2.19	2.19	2.57	2.58	2.60
Kerosene:									
Residential (dollars/mill. BTU)	1.13	1.15	1.16	1.17	1.16	1.18	1.19	1.23	1.25
Residential (cents/gallon)	15.27	15.58	15.70	15.73	15.72	15.92	16.07	16.55	16.86
Commercial (dollars/mill. BTU)	1.04	1.07	1.07	1.07	1.06	1.07	1.09	1.12	1.15
Commercial (cents/gallon)	14.01	14.46	14.44	14.46	14.25	14.48	14.69	15.17	15.46
Industrial (dollars/mill. BTU)	1.03	1.07	1.06	1.06	1.05	1.07	1.08	1.12	1.14
Industrial (cents/gallon)	13.93	14.39	14.35	14.37	14.15	14.38	14.59	15.07	15.36
Liquid Petroleum Gas:									
Residential (dollars/mill. BTU)	1.11	1.01	0.93	0.96	1.01	1.03	1.07	1.12	0.90
Residential (cents/gallon)	10.65	9.60	8.91	9.21	9.67	9.85	10.26	10.69	8.63
Industrial (dollars/mill. BTU)	1.01	0.92	0.85	0.88	0.91	0.93	0.97	1.01	0.82
Industrial (cents/gallon)	9.66	8.83	8.10	8.36	8.65	8.84	9.26	9.67	7.82
Natural Gas:									
Residential (dollars/mill. BTU)	0.81	0.81	0.82	0.82	0.81	0.82	0.82	0.82	0.84
Residential (dollars/th.cu.ft.)	0.84	0.84	0.85	0.84	0.84	0.85	0.84	0.84	0.87
Commercial (dollars/mill. BTU)	0.64	0.65	0.65	0.66	0.66	0.66	0.67	0.67	0.68
Commercial (dollars/th.cu.ft.)	0.69	0.69	0.69	0.70	0.69	0.70	0.70	0.69	0.70
Industrial (dollars/mill. BTU)	0.47	0.47	0.48	0.50	0.51	0.50	0.52	0.44	0.43
Industrial (dollars/th.cu.ft.)	0.49	0.48	0.49	0.51	0.53	0.52	0.54	0.45	0.44
Electricity:									
Residential (dollars/mill. BTU)	7.64	7.49	7.39	7.29	7.09	6.95	6.69	6.53	6.36
Residential (dollars/th. KWH)	26.08	25.57	25.20	24.86	24.19	23.70	22.84	22.26	21.69
Commercial (dollars/mill. BTU)	6.89	6.80	6.68	6.55	6.34	6.21	5.95	5.81	5.61
Commercial (dollars/th. KWH)	23.50	23.19	22.80	22.35	21.64	21.18	20.29	19.82	19.13
Industrial (dollars/mill. BTU)	2.56	2.55	2.50	2.45	2.39	2.37	2.36	2.38	2.35
Industrial (dollars/th. KWH)	8.74	8.70	8.54	8.35	8.14	8.09	8.04	8.12	8.01

WEST VIRGINIA ENERGY FUEL PRICES BY SECTOR/UNITS
(In Current $)
(Continued)

	1969	1970	1971	1972	1973	1974	1975	1976	1977
Gasoline:									
Service Station (cents/gallon)	35.40	35.73	38.61	38.40	39.56	51.23	57.57	59.07	63.14
Distillate Oil:									
Residential (dollars/mill. BTU)	1.18	1.23	1.27	1.29	1.88	2.60	2.77	2.95	3.40
Residential (cents/gallon)	16.33	17.08	17.66	17.95	26.01	36.08	38.43	40.85	47.16
Commercial (dollars/mill. BTU)	1.07	1.11	1.15	1.17	1.62	2.34	2.59	2.79	3.20
Commercial (cents/gallon)	14.83	15.40	15.99	16.19	22.42	32.39	35.88	38.63	44.45
Industrial (dollars/mill. BTU)	1.06	1.10	1.15	1.16	1.60	2.32	2.57	2.77	3.19
Industrial (cents/gallon)	14.73	15.29	15.88	16.07	22.18	32.14	35.70	38.48	44.26
Residual Oil:									
Commercial (dollars/mill. BTU)	0.41	0.51	0.71	0.59	0.75	1.80	1.89	1.86	2.23
Commercial (dollars/bbl)	2.58	3.18	4.45	3.73	4.74	11.30	11.87	11.69	14.03
Industrial (dollars/mill. BTU)	0.41	0.50	0.70	0.59	0.75	1.79	1.88	1.86	2.23
Industrial (dollars/bbl)	2.55	3.15	4.40	3.71	4.70	11.26	11.84	11.67	14.01
Kerosene:									
Residential (dollars/mill. BTU)	1.27	1.33	1.37	1.39	1.99	3.11	2.96	3.13	3.63
Residential (cents/gallon)	17.19	17.98	18.52	18.81	26.86	42.02	40.26	42.24	48.96
Commercial (dollars/mill. BTU)	1.16	1.21	1.25	1.26	1.72	2.84	2.79	---	---
Commercial (cents/gallon)	15.70	16.31	16.86	17.06	23.27	38.33	37.70	---	---
Industrial (dollars/mill. BTU)	1.16	1.20	1.24	1.25	1.71	2.82	2.78	2.51	3.41
Industrial (cents/gallon)	15.59	16.19	16.74	16.94	23.03	38.08	37.53	33.85	46.07
Liquid Petroleum Gas:									
Residential (dollars/mill. BTU)	0.88	1.16	1.12	1.13	2.04	2.73	2.51	2.83	3.35
Residential (cents/gallon)	8.38	11.12	10.69	10.81	19.51	26.10	24.00	27.05	31.97
Industrial (dollars/mill. BTU)	0.79	1.04	1.01	1.01	1.75	2.43	2.33	2.67	3.14
Industrial (cents/gallon)	7.56	9.95	9.62	9.68	16.75	23.25	22.30	25.48	30.01
Natural Gas:									
Residential (dollars/mill. BTU)	0.85	0.86	0.91	0.93	0.94	1.07	1.41	1.62	2.47
Residential (dollars/th.cu.ft.)	0.88	0.89	0.94	0.96	0.97	1.10	1.45	1.67	2.55
Commercial (dollars/mill. BTU)	0.68	0.68	0.71	0.72	0.74	0.86	1.18	1.46	4.47
Commercial (dollars/th.cu.ft.)	0.70	0.71	0.73	0.75	0.76	0.89	1.22	1.50	4.61
Industrial (dollars/mill. BTU)	0.44	0.44	0.50	0.53	0.61	0.72	0.97	1.24	1.92
Industrial (dollars/th.cu.ft.)	0.45	0.45	0.51	0.55	0.63	0.74	1.00	1.28	1.99
Electricity:									
Residential (dollars/mill. BTU)	6.21	6.10	6.40	6.79	6.82	7.98	9.58	10.51	10.23
Residential (dollars/th. KWH)	21.20	20.80	21.83	23.16	23.28	27.23	32.70	35.85	34.92
Commercial (dollars/mill. BTU)	5.51	5.50	5.92	6.29	6.41	7.61	9.25	10.11	10.08
Commercial (dollars/th. KWH)	18.79	18.76	20.21	21.48	21.86	25.98	31.55	34.49	34.41
Industrial (dollars/mill. BTU)	2.36	2.46	2.80	3.08	3.20	4.47	6.09	6.39	6.40
Industrial (dollars/th. KWH)	8.05	8.39	9.56	10.52	10.90	15.24	20.78	21.81	21.85

WATER AVAILABILITY IN WEST VIRGINIA

DAILY FLOW RATES OF MAJOR RIVERS

Cubic Feet/Second

River	Measurement Location	Year	Maximum	Minimum	Mean
Big Sandy	Louisa, Kentucky	1964	33,000	96	3,483
		1965	50,500	---	3,664
		1966	36,100	200	4,021
		1967	62,100	229	5,278
		1968	34,200	260	3,649
		1969	39,600	225	2,216
		1970	50,500	370	4,239
		1971	50,200	435	5,424
		1972	69,300	595	7,954
		1973	60,000	404	5,429
		1974	68,900	479	6,819
		1975	57,700	672	7,152
		1976	24,900	394	3,419
Cheat	Rowlesburg, WV	1964	37,000	45	2,115
		1965	17,800	35	1,669
		1966	23,600	64	1,921
		1967	47,800	90	2,575
		1968	29,900	40	1,927
		1969	31,000	165	1,763
		1970	26,600	175	2,284
		1971	24,500	170	2,388
		1972	40,500	129	3,692
		1973	26,800	129	2,453
		1974	28,200	133	2,674
		1975	18,300	133	2,809
		1976	26,300	81	2,038
		1977	26,300	183	2,093
Kanawha	Charleston, WV	1964	111,000	---	12,240
		1965	117,000	---	11,710
		1966	89,900	1,100	12,270
		1967	160,000	2,300	16,350
		1968	74,200	2,190	12,710
		1969	160,000	2,830	11,210
		1970	83,300	2,590	13,290
		1971	67,500	2,000	15,840
		1972	132,000	2,800	24,020
		1973	111,000	2,360	19,210
		1974	110,000	2,380	18,070
		1975	113,000	2,360	19,850
		1976	111,000	2,330	14,310
		1977	130,000	3,710	14,880

WATER AVAILABILITY IN WEST VIRGINIA
(Continued)

River	Measurement Location	Year	Maximum	Minimum	Mean
Little Kanawha	Palestine, WV	1964	19,600	3	1,609
		1965	23,900	1	1,604
		1966	32,400	5	1,201
		1967	48,600	25	2,419
		1968	25,600	28	1,660
		1969	25,400	63	1,207
		1970	32,800	64	2,102
		1971	21,300	48	2,054
		1972	34,800	108	3,482
		1973	27,800	66	2,330
		1974	38,200	74	2,639
		1975	20,500	66	2,428
		1976	28,100	51	1,917
		1977	28,100	62	1,697
Elk	Queen Shoals, WV	1964	13,300	54	1,559
		1965	21,100	70	1,460
		1966	17,000	48	1,416
		1967	35,300	66	2,431
		1968	16,900	69	1,761
		1969	26,200	146	1,503
		1970	13,700	108	2,156
		1971	17,700	112	2,110
		1972	26,100	181	3,802
		1973	20,100	149	2,674
		1974	19,800	161	2,680
		1975	12,800	137	2,707
		1976	17,300	93	1,990
		1977	17,300	69	1,829
Gauley	Belva, WV	1964	34,500	39	2,317
		1965	20,200	11	1,841
		1966	17,400	48	2,231
		1967	21,100	174	3,093
		1968	14,600	173	2,516
		1969	24,100	202	2,296
		1970	20,800	126	2,857
		1971	19,600	175	2,914
		1972	26,700	115	4,556
		1973	20,800	202	3,231
		1974	26,800	171	3,269
		1975	26,600	159	3,637
		1976	21,700	173	2,653
		1977	20,200	190	2,651

WATER AVAILABILITY IN WEST VIRGINIA
(Continued)

River	Measurement Location	Year	Maximum	Minimum	Mean
Shenandoah	Millville, WV	1964	20,300	345	2,005
		1965	19,700	322	1,867
		1966	10,900	217	1,549
		1967	40,000	498	2,390
		1968	16,000	429	2,008
		1969	11,000	439	1,646
		1970	15,200	400	2,432
		1971	50,700	719	3,303
		1972	97,300	919	5,081
		1973	40,600	732	3,796
		1974	19,500	619	2,358
		1975	57,400	619	3,134
		1976	36,300	435	2,601
		1977	36,300	354	2,010
Tug Fork	Kermit, WV	1964	12,100	44	1,082
		1965	24,100	61	1,226
		1966	17,200	64	1,274
		1967	43,800	109	1,626
		1968	16,400	95	1,179
		1969	29,200	62	728
		1970	28,000	97	1,168
		1971	24,200	211	1,603
		1972	42,700	234	2,636
		1973	26,600	135	1,623
		1974	47,000	138	2,177
		1975	26,200	138	2,251
		1976	10,700	92	1,106
		1977	78,000	210	1,520
New River	Hinton, WV	1964	44,900	1,250	6,565
		1965	44,900	1,150	6,540
		1966	44,100	1,130	6,899
		1967	50,500	1,440	8,084
		1968	41,600	1,150	6,669
		1969	45,000	1,020	5,748
		1970	43,500	1,130	6,211
		1971	44,700	1,500	8,655
		1972	63,200	1,570	12,170
		1973	58,300	1,600	10,590
		1974	48,900	1,120	9,403
		1975	55,900	1,120	10,260
		1976	56,100	1,530	7,634
		1977	56,100	1,490	7,672

WATER AVAILABILITY IN WEST VIRGINIA
(Continued)

River	Measurement Location	Year	Maximum	Minimum	Mean
Potomac	Paw Paw, WV	1964	43,900	214	2,859
		1965	23,000	192	2,655
		1966	28,000	172	2,374
		1967	58,600	350	3,432
		1968	27,000	226	2,584
		1969	14,200	286	1,579
		1970	39,400	310	3,579
		1971	38,400	300	3,899
		1972	53,400	414	4,807
		1973	44,700	483	4,286
		1974	32,200	364	3,285
		1975	54,600	364	4,248
		1976	65,500	324	3,247
		1977	65,500	279	3,146
Monongahela	Lock #15	1964	19,700	340	3,401
		1965	20,900	290	3,101
		1966	24,900	280	2,879
		1967	---	---	---
		1968	---	---	---
		1969	---	---	---
		1970	---	---	---
		1971	---	---	---
		1972	83,000	753	12,800*
		1973	49,300	532	8,302*

*Greensboro, Pennsylvania
(A statistical low flow value of 340 cfs which would occur for seven consecutive days only once in ten years applies at Lock & Dam No. 8.)

River	Measurement Location	Year	Maximum	Minimum	Mean
Monongahela	Cobun Creek	1976	188	.05	13.6
		1977	188	.19	14.5
Tygart Valley	Colfax, WV	1964	17,400	221	2,193
		1965	17,100	144	1,909
		1966	17,800	192	1,970
		1967	19,000	169	3,044
		1968	18,200	185	2,134
		1969	9,660	220	2,044
		1970	17,100	272	2,591
		1971	18,700	176	2,734
		1972	18,000	336	4,311
		1973	11,900	277	2,699
		1974	18,200	336	3,000
		1975	11,900	168	2,975
		1976	11,000	173	2,298
		1977	11,800	197	2,295

WATER AVAILABILITY IN WEST VIRGINIA
(Continued)

River	Measurement Location	Year	Maximum	Minimum	Mean
West Fork	Enterprise, WV	1964	7,570	26	891
		1965	9,700	38	856
		1966	17,000	34	686
		1967	33,300	34	1,205
		1968	22,600	58	966
		1969	15,400	65	744
		1970	12,900	57	1,010
		1971	14,700	68	1,144
		1972	20,900	90	1,719
		1973	12,600	59	1,200
		1974	21,300	68	1,269
		1975	13,000	65	1,335
		1976	13,200	74	958
		1977	13,200	77	871
Ohio	Parkersburg, WV	1964	416,000	4,260	44,470
		1965	165,000	5,020	40,390
		1966	322,000	4,560	38,450
		1967	273,000	6,130	47,760
		1968	350,000*	---	---
		1969	251,000*	---	---
		1970	335,000*	---	---
		1971	300,000*	---	---
		1972	385,000*	---	---
		1973	368,000*	---	---
		1974	440,000*	---	---
		1975	328,000*	---	---
		1976	---	---	---
		1977	261,000	108,000	162,700

*Point Pleasant, West Virginia
(A statistical low flow value of 7,500 cfs which would occur for seven consecutive days only once in 20 years applies at Lock & Dam No. 23.)

River	Measurement Location	Year	Maximum	Minimum	Mean
Greenbrier	Hilldale, WV	1964	36,800	40	1,926
		1965	25,600	46	1,900
		1966	26,000	58	1,851
		1967	45,000	89	2,719
		1968	22,600	62	1,708
		1969	39,100	129	1,540
		1970	32,300	80	1,962
		1971	25,600	102	2,413
		1972	41,200	161	3,901
		1973	51,000	123	3,073
		1974	31,000	125	2,516
		1975	24,600	125	2,934
		1976	39,000	86	2,128
		1977	46,200	140	2,136

WATER AVAILABILITY IN WEST VIRGINIA
(Continued)

River	Measurement Location	Year	Maximum	Minimum	Mean
Guyandotte	Branchland, WV	1964	14,000	42	1,375
		1965	23,600	74	1,339
		1966	13,700	65	1,295
		1967	36,100	116	1,861
		1968	18,000	110	1,406
		1969	24,000	85	867
		1970	26,800	89	1,363
		1971	16,200	179	1,714
		1972	38,200	222	2,908
		1973	22,700	100	1,843
		1974	34,700	148	2,423
		1975	23,300	148	2,581
		1976	8,110	112	1,326
		1977	31,800	158	1,677

*Source: Water Resources Data For West Virginia, U. S. Geological Survey and U. S. Army Corps of Engineering.

UNITED STATES ENERGY DATA

UNITED STATES PRODUCTION OF MINERAL ENERGY FUELS AND ELECTRICITY FROM WATER AND NUCLEAR POWER
(Original Units)

YEAR	BITUMINOUS COAL 1/	ANTHRACITE	CRUDE PETROLEUM 2/	NATURAL GAS WET 3/	ELECTRICITY (Million KWH) WATER POWER 4/	ELECTRICITY (Million KWH) NUCLEAR POWER 5/
1920	568,667	89,598	442,929	812,338	18,779	-
1925	520,053	61,817	763,743	1,209,609	25,496	-
1930	467,526	69,385	898,011	1,978,911	35,878	-
1935	372,373	52,159	996,596	1,968,963	42,727	-
1940	460,772	51,485	1,353,214	2,733,819	50,131	-
1945	577,617	54,934	1,713,655	4,042,002	84,747	-
1950	516,311	44,077	1,973,574	6,282,060	100,885	-
1955	464,634	26,200	2,484,428	9,405,351	116,236	-
1960	415,512	18,817	2,574,933	12,771,038	149,423	518
1965	512,088	14,866	2,848,514	16,039,753	196,984	3,657
1966	533,881	12,941	3,027,763	17,206,628	197,938	5,520
1967	552,626	12,256	3,215,742	18,171,325	224,949	7,655
1968	545,245	11,461	3,329,042	19,322,400	225,873	12,528
1969	560,505	10,473	3,371,751	20,698,240	253,468	13,928
1970	602,932	9,729	3,517,450	21,920,642	250,611	21,801
1971	552,192	8,727	3,453,914	22,493,012	269,580	37,899
1972	595,386	7,106	3,455,368	22,531,698	276,122	54,031
1973	591,738	6,830	3,360,903	22,647,549	275,319	83,334
1974	603,406	6,617	3,202,585	21,600,522	303,985	112,740
1975	648,438	6,203	3,056,779	20,108,661	300,171	172,506
1976	678,685	6,228	2,976,180	19,952,438	286,910	191,111

1/ Thousands of net tons.

2/ Thousands of barrels. Crude petroleum and commingled condensate.

3/ Millions of cubic feet. Total production minus repressuring, vent and waste.

4/ Millions of kilowatt-hours. The years 1920 to 1942, inclusive, represent the fuel equivalent of water power converted to kilowatt-hours at the prevailing rate of pounds of coal per KWH at central electric stations. The years since 1942 represent production of electricity by water power at electric utility and industrial plants, as published by the Federal Energy Regulatory Commission.

5/ Millions of kilowatt-hours.

*Source: National Coal Association, Coal Facts, 1978-1979. Figures originally tabulated by the U. S. Bureau of Mines.

UNITED STATES CONSUMPTION 1/ OF MINERAL ENERGY FUELS
Original Units

YEAR	BITUMINOUS COAL AND LIGNITE (000 tons)	ANTHRACITE (000 tons)	CRUDE PETROLEUM (000 bbl.)	PETROLEUM PRODUCTS FROM OTHER SOURCES 2/ (000 bbl.)	NATURAL GAS DRY (Mil.cu.ft.)	NATURAL GAS LIQUIDS (000 gals)
1920	508,595	85,786	521,786	E- 67,634	799,248	385
1925	499,193	64,061	800,217	E- 84,121	1,171,291	1,127
1930	454,990	67,628	1,060,067	E- 89,305	1,901,994	2,212
1935	356,326	51,100	999,804	E- 53,947	1,906,781	1,539
1940	430,910	49,000	1,321,073	E- 36,119	2,633,735	2,211
1945	559,567	51,600	1,758,505	E- 97,018	3,838,524	4,652
1950	454,202	39,900	2,121,358	I- 58,933	5,942,429	7,511
1955	423,412	23,600	2,751,053	I- 51,803	8,920,259	11,655
1960	380,429	17,600	2,960,750	I- 223,074	12,305,312	14,069
1965	459,164	12,900	3,309,225	452,290	15,598,427	18,502
1966	486,266	11,400	3,455,304	489,278	16,853,606	19,581
1967	480,416	10,800	3,590,271	503,945	17,684,573	20,593
1968	498,830	10,160	3,776,340	586,449	18,972,915	22,638
1969	507,275	8,809	3,891,395	671,702	20,387,827	25,067
1970	515,619	8,248	3,984,612	772,171	21,367,036	25,523
1971	494,862	7,338	4,083,547	857,363	22,132,453	25,689
1972	516,776	5,915	4,279,569	1,042,415	22,429,454	28,070
1973	556,022	5,671	4,548,119	1,111,582	22,245,226	27,619
1974	552,709	5,448	4,448,124	992,614	21,223,133	26,775
1975	556,301	5,108	4,546,480	793,635	19,537,593	25,931
1976	597,479	5,040	4,910,240	849,064	19,812,723	26,520

1/ Data on consumption calculated from production minus exports, plus imports which include shipments to noncontiguous territories, and change in stocks. With the exception of bituminous coal and lignite for the years 1933 to date, these data represent actual consumption including a small amount of coal consumed in noncontiguous territories.

2/ Prior to 1965, the heading for this column read: Petroleum products net: E-exported; I-imported. Now includes imports, exports, processing gains and stock change.

*Source: National Coal Association, Coal Facts, 1977-1978. Figures originally tabulated by the U. S. Bureau of Mines.

UNITED STATES CONSUMPTION 1/ OF ELECTRICITY FROM WATER AND NUCLEAR POWER
(Million KWH) 2/
Original Units

YEAR	WATER POWER	NET IMPORTS	NUCLEAR	TOTAL
1920	18,779	940	-------	19,719
1925	25,496	1,257	-------	26,753
1930	35,878	1,592	-------	37,470
1935	42,727	1,337	-------	44,064
1940	50,131	2,114	-------	52,245
1945	84,747	2,562	-------	87,309
1950	100,885	1,786	-------	102,671
1955	116,236	4,068	-------	120,304
1960	149,423	4,535	518	154,476
1965	196,843	141 3/	3,657	200,359
1966	199,030	1,092	5,520	205,642
1967	224,650	299 3/	7,655	232,006
1968	225,242	631 3/	12,528	237,139
1969	254,540	1,072	13,928	269,540
1970	252,571	1,960	21,801	276,332
1971	273,110	3,530	37,899	314,539
1972	283,866	7,744	54,031	345,641
1973	289,597	14,278	83,334	387,209
1974	316,920	12,694	113,577	443,191
1975	309,356	6,185	172,506	488,047
1976	295,521	8,611	191,111	495,243

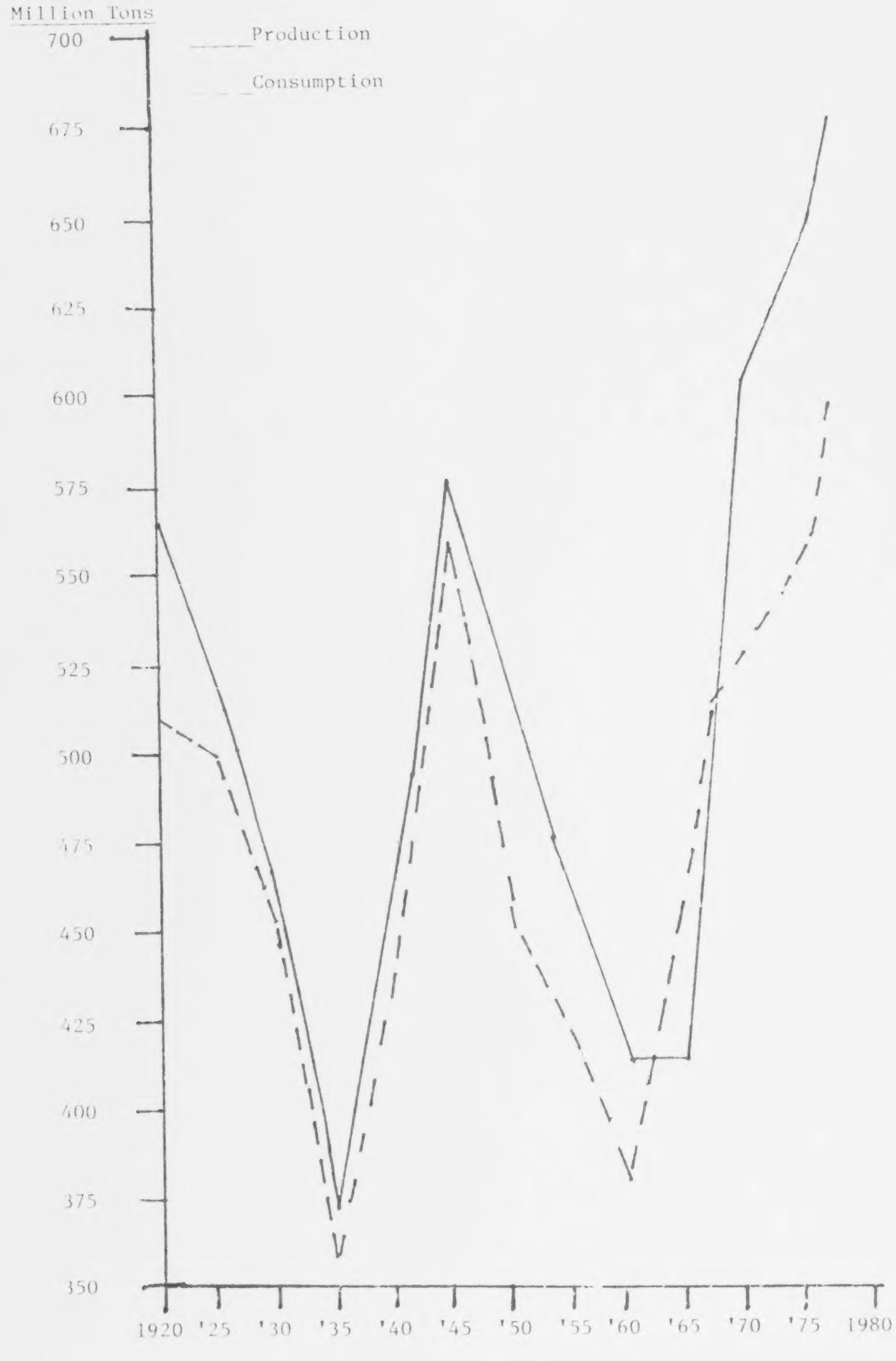
1/ Data on consumption calculated from production minus exports, plus imports which include shipments to noncontinguous territories, and change in stocks. With the exception of bituminous coal and lignite for the years 1933 to date, these data represent actual consumption including a small amount of coal consumed in noncontiguous territory.

2/ Millions of kilowatt-hours; source Federal Energy Regulatory Commission with the exception of production for 1920 through 1942. For these years the fuel equivalent of water power converted to KWH at the prevailing rate of pounds of coal per KWH at central electric stations.

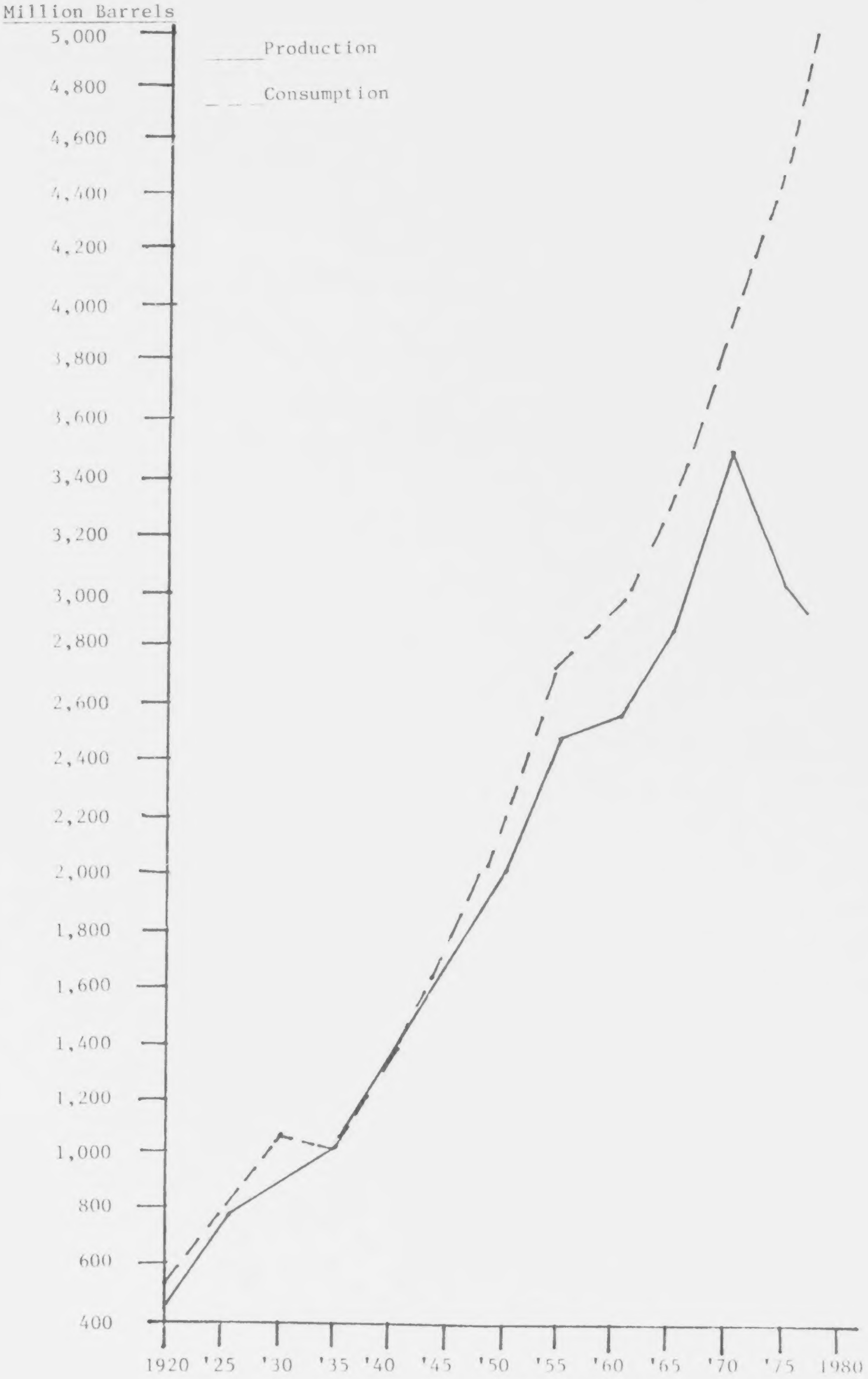
3/ Net exports.

*Source: National Coal Association, Coal Facts, 1978-1979. Figures originally tabulated by the U. S. Bureau of Mines.

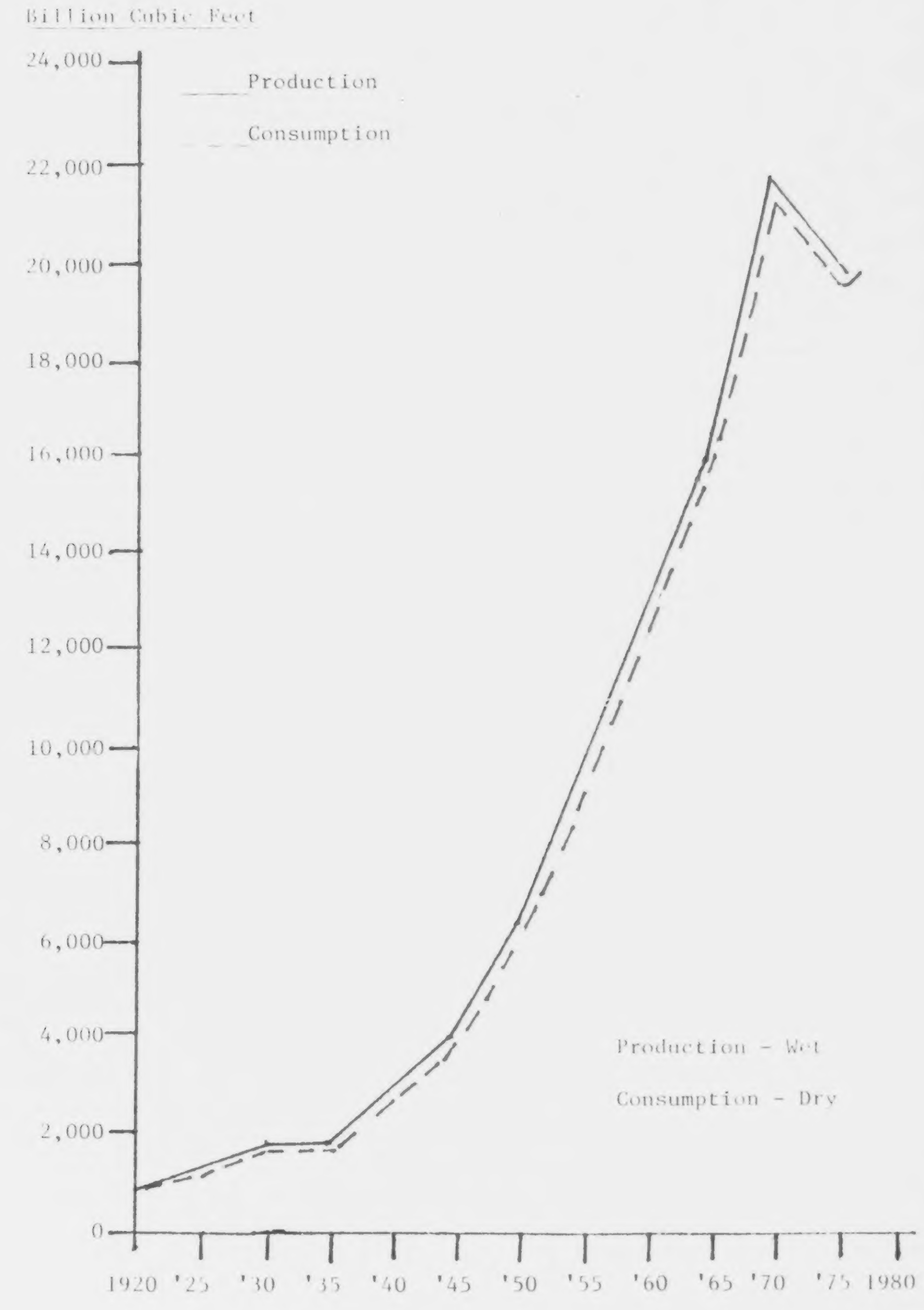
UNITED STATES PRODUCTION AND CONSUMPTION OF BITUMINOUS COAL



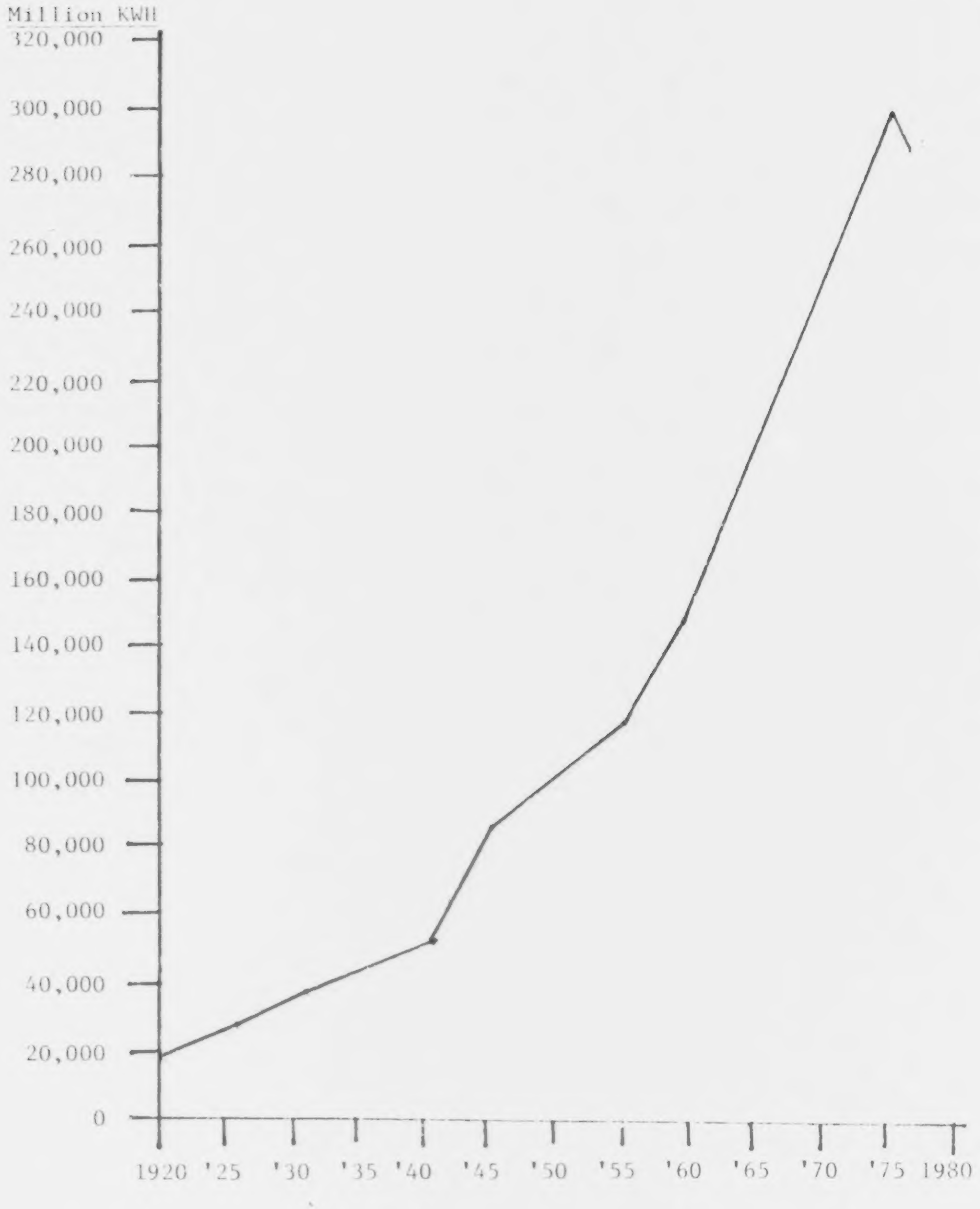
UNITED STATES PRODUCTION AND CONSUMPTION OF CRUDE PETROLEUM



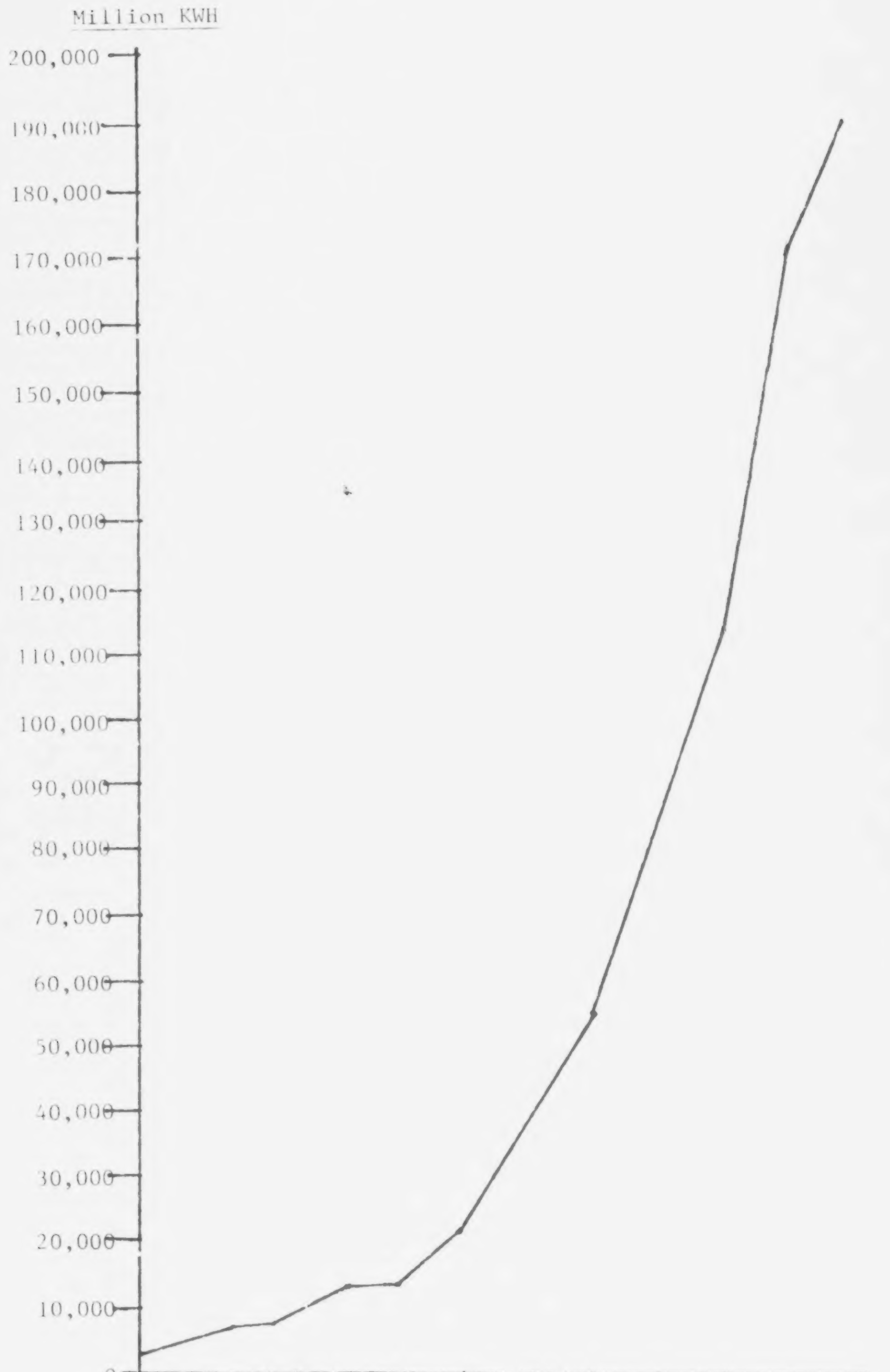
UNITED STATES PRODUCTION AND CONSUMPTION OF NATURAL GAS



UNITED STATES HYDRO-POWER PRODUCTION
(1920-1980)



UNITED STATES NUCLEAR POWER PRODUCTION
(1965-1976)



EMPLOYMENT AND PRODUCTIVITY IN THE UNITED STATES
BITUMINOUS COAL MINING INDUSTRY

YEAR	PRODUCTION (Net Tons)	MEN EMPLOYED	NUMBER OF MINES	AVERAGE NUMBER OF DAYS WORKED	NET TONS PER MAN PER DAY	NET TONS PER MAN PER YEAR
1920	568,666,683	639,547	8,921	220	4.00	881
1925	520,052,741	588,493	7,144	195	4.52	884
1930	467,526,299	493,202	5,891	187	5.06	948
1935	372,373,122	462,403	6,315	179	4.50	805
1940	460,771,500	439,075	6,324	202	5.19	1,049
1941	514,149,245	456,981	6,822	216	5.20	1,125
1942	582,692,937	461,991	6,972	246	5.12	1,261
1943	590,177,069	416,007	6,620	264	5.38	1,419
1944	619,576,240	393,347	6,928	278	5.67	1,575
1945	577,617,327	383,100	7,033	261	5.78	1,508
1946	533,922,068	396,434	7,333	214	6.30	1,347
1947	630,623,722	419,182	8,700	234	6.42	1,504
1948	599,518,229	441,631	9,079	217	6.26	1,358
1949	437,868,036	433,698	8,559	157	6.43	1,010
1950	516,311,053	415,582	9,429	183	6.77	1,239
1951	533,664,732	372,897	8,009	203	7.04	1,429
1952	466,840,782	335,217	7,275	186	7.47	1,389
1953	457,290,449	293,106	6,671	191	8.17	1,560
1954	391,706,300	227,397	6,130	182	9.47	1,724
1955	464,633,408	225,093	7,856	210	9.84	2,064
1956	500,874,077	228,163	8,520	214	10.28	2,195
1957	492,703,916	228,635	8,539	203	10.59	2,155
1958	410,445,547	197,402	8,264	184	11.33	2,079
1959	412,027,502	179,636	7,719	188	12.22	2,294
1960	415,512,347	169,400	7,865	191	12.83	2,453
1961	402,976,802	150,474	7,648	193	13.87	2,678
1962	422,149,325	143,822	7,740	199	14.72	2,935
1963	458,928,175	141,646	7,940	205	15.83	3,204
1964	486,997,952	128,698	7,630	225	16.84	3,784
1965	512,088,263	133,732	7,228	219	17.52	3,829
1966	533,881,210	131,752	6,749	219	18.52	4,052
1967	552,626,000	131,523	5,873	219	19.17	4,198
1968	545,245,000	127,894	5,327	220	19.37	4,263
1969	560,505,000	124,532	5,118	226	19.90	4,501
1970	602,932,000	140,140	5,601	228	18.84	4,302
1971	552,192,000	145,664	5,149	210	18.02	3,791
1972	595,386,000	149,265	4,879	225	17.74	3,989
1973	591,738,000	148,121	4,744	227	17.58	3,995
1974	603,406,000	166,701	5,247	206	17.58**	3,620
1975	648,438,000	189,880	6,168	232	14.74	3,420
1976	678,685,000	202,280	6,161	232	14.46	3,355
1977 1/	688,575,000	214,777	6,200	218	14.74	3,213

**Reported Productivity data for 1974 are not strictly comparable with earlier series.

1/ Preliminary.

*Source: National Coal Association, Coal Facts, 1978-1979. Figures originally tabulated by the U. S. Bureau of Mines.

VALUE AND PRODUCTION OF BITUMINOUS COAL
IN THE UNITED STATES

YEAR	PRODUCTION (Net Tons)	VALUE 1/ TOTAL (Thousands)	VALUE 1/ AVERAGE PER TON
1920	568,666,683	$ 2,129,933	$ 3.75
1925	520,052,741	1,060,402	2.04
1930	467,526,299	795,483	1.70
1935	372,373,122	658,063	1.77
1940	460,771,500	879,327	1.91
1941	514,149,245	1,125,363	2.19
1942	582,692,937	1,373,991	2.36
1943	590,177,069	1,584,644	2.69
1944	619,576,240	1,810,901	2.92
1945	577,617,327	1,768,204	3.06
1946	533,922,068	1,835,539	3.44
1947	630,623,722	2,622,635	4.16
1948	599,518,229	2,993,267	4.99
1949	437,868,036	2,136,871	4.88
1950	516,311,053	2,500,374	4.84
1951	533,664,732	2,626,030	4.92
1952	466,840,782	2,289,180	4.90
1953	457,290,449	2,247,944	4.92
1954	391,706,300	1,769,620	4.52
1955	464,633,408	2,092,383	4.50
1956	500,874,077	2,412,004	4.82
1957	492,703,916	2,504,406	5.08
1958	410,445,547	1,996,281	4.86
1959	412,027,502	1,965,607	4.77
1960	415,512,347	1,950,425	4.69
1961	402,976,802	1,844,563	4.58
1962	422,149,325	1,891,554	4.48
1963	458,928,175	2,013,309	4.39
1964	486,997,952	2,165,582	4.45
1965	512,088,263	2,276,022	4.44
1966	533,881,210	2,421,293	4.54
1967	552,626,000	2,555,378	4.62
1968	545,245,000	2,546,340	4.67
1969	560,505,000	2,795,509	4.99
1970	602,932,000	3,772,662	6.26
1971	552,192,000	3,904,562	7.07
1972	595,386,000	4,561,983	7.66
1973	591,738,000	5,049,612	8.53
1974	603,406,000	9,486,209	15.75
1975	648,438,000	12,472,486	19.23
1976	678,685,000	13,186,850	19.45
1977 2/	688,575,000	14,115,788	20.50

1/ Figures for the years 1920, 1925, 1930 and 1935 exclude selling expenses.

2/ Preliminary.

*Source: National Coal Association, Coal Facts, 1978-1979. Figures originally tabulated by the U. S. Bureau of Mines.

UNITED STATES BITUMINOUS COAL MINING INDUSTRY - METHOD OF PRODUCTION

YEAR	PERCENT OF UNDERGROUND PRODUCTION: CUT BY MACHINES	PERCENT OF UNDERGROUND PRODUCTION: MINED BY CONTINUOUS MINING MACHINES	PERCENT OF UNDERGROUND PRODUCTION: MECHANICALLY LOADED	PERCENT OF TOTAL PRODUCTION: MECHANICALLY CLEANED 1/	PERCENT OF TOTAL PRODUCTION: MINED BY STRIP	PERCENT OF TOTAL PRODUCTION: MINED BY AUGER	PERCENT OF TOTAL PRODUCTION: MINED BY UNDERGROUND
1920	60.7	-	-	3.3	1.5	-	98.5
1925	72.9	-	1.2	-	3.2	-	96.8
1930	81.0	-	10.5	8.3	4.3	-	95.7
1935	84.2	-	13.5	12.2	6.4	-	93.6
1940	88.4	-	35.4	22.2	9.4	-	90.6
1941	89.0	-	40.7	22.9	10.7	-	89.3
1942	89.7	-	45.2	24.4	11.5	-	88.5
1943	90.3	-	48.9	24.7	13.5	-	86.5
1944	90.5	-	42.9	25.6	16.3	-	83.7
1945	90.8	-	56.1	25.6	19.0	-	81.0
1946	90.8	-	58.4	26.0	21.1	-	78.8
1947	90.0	-	60.7	27.7	22.1	-	77.9
1948	90.7	0.1	64.3	30.2	23.3	-	76.7
1949	91.4	0.8	67.0	35.1	24.2	-	75.8
1950	91.8	1.2	69.4	38.5	23.9	-	76.1
1951	93.4	1.5	73.1	45.0	22.0	-	78.0
1952	92.8	2.3	75.6	48.7	23.3	0.3	76.4
1953	92.3	3.4	79.6	52.9	23.1	0.5	76.4
1954	88.8	5.7	84.0	59.4	25.1	1.1	73.8
1955	88.1	8.0	84.6	58.7	24.8	1.3	73.9
1956	84.6	10.9	84.0	58.4	25.4	1.6	73.0
1957	80.9	14.9	84.8	61.7	25.2	1.6	73.2
1958	75.3	19.7	84.9	63.1	28.3	1.8	69.9
1959	72.1	23.2	86.0	65.5	29.4	1.8	68.8
1960	67.8	27.4	86.3	65.7	29.5	1.9	68.6
1961	64.7	30.9	86.3	65.7	30.3	2.0	67.7
1962	63.3	32.1	85.7	64.3	30.9	2.5	66.6
1963	61.0	34.5	85.8	63.1	31.4	2.7	65.9
1964	57.4	38.7	87.4	63.7	31.2	2.7	66.1
1965	53.9	42.7	89.2	64.9	32.3	2.8	64.9
1966	51.0	45.8	91.7	63.8	33.7	2.9	63.4
1967	49.1	47.4 2/	94.5	63.2	33.9	2.9	63.2
1968	48.4	47.6 2/	95.7	62.5	34.1	2.8	63.1
1969	46.2	49.7 2/	96.6	59.7	35.2	2.9	61.9
1970	46.1	50.1 2/	97.2	53.6	40.5	3.3	56.2
1971	40.6	55.4 2/	98.2	49.1	46.9	3.1	50.0
1972	37.4	58.7 2/	99.0	49.2	46.3	2.6	51.1
1973	35.8	59.7 2/	99.3	48.8	46.8	2.7	50.6
1974	33.0	61.8 2/	97.7	43.9	54.0 3/	3/	46.0
1975	32.0	63.4	98.5	41.2	54.8 3/	3/	45.2
1976	31.0	63.9	99.0	40.5	56.6 3/	3/	43.4
1977 4/	-	-	-	-	60.6 3/	3/	39.4

1/ For 1920 and 1925, these percentages are exclusive of coal cleaned at central washeries operated by consumers. After 1926, when data became available on the tonnage cleaned by consumer-operated plants, the percentages include the total tons cleaned at the mines and at consumer-operated washeries.

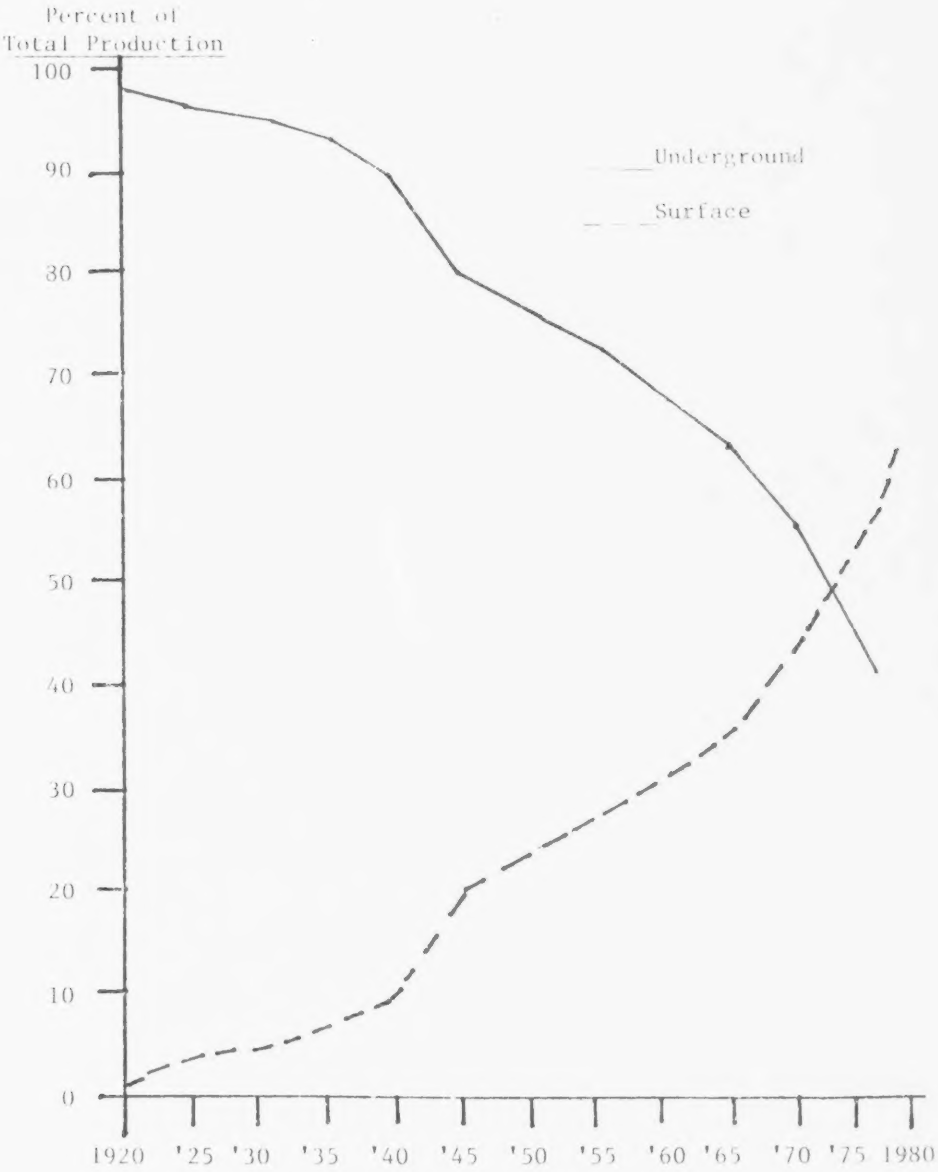
2/ Mined by longwall machines: 1967, 0.9%; 1968, 1.3%; 1969, 1.8%; 1970, 2.1%; 1971, 2.4%; 1972, 2.6%; 1973, 3.2%; 1974, 3.5%.

3/ The Bureau of Mines has classified 1974 through 1977 as underground, strip, auger and strip auger. The last three categories have been combined as "surface" production.

4/ Preliminary.

*Source: National Coal Association, Coal Facts, 1978-1979. Figures originally tabulated by the U. S. Bureau of Mines.

UNITED STATES COAL MINING BY METHODS AS A PERCENTAGE OF TOTAL PRODUCTION



Note: Auger mining is included under the classification of surface mining.

UNITED STATES CONSUMPTION AND EXPORTS OF BITUMINOUS COAL
(Thousand Tons)

YEAR	DOMESTIC CONSUMPTION	EXPORTS			GRAND TOTAL	IMPORTS
		CANADA	OVERSEAS	TOTAL		
1920	508,595	16,259	22,258	38,517	547,112	1,245
1925	499,193	13,531	3,391	17,462	516,655	602
1930	454,990	13,675	2,202	15,877	470,867	241
1935	356,326	9,047	696	9,742	366,068	202
1940	430,910	13,623	2,843	16,466	477,376	372
1941	492,115	18,376	2,364	20,740	512,855	390
1942	540,050	21,089	1,854	22,943	562,993	498
1943	593,797	24,372	1,464	25,836	619,633	758
1944	589,599	24,516	1,516	26,032	615,631	634
1945	559,567	21,760	6,196	27,956	587,523	467
1946	500,386	22,033	19,164	41,197	541,583	435
1947	545,891	26,170	42,497	68,667	614,558	290
1948	519,909	25,998	19,932	45,930	565,839	291
1949	445,538	16,098	11,744	27,842	473,380	315
1950	454,202	23,009	2,459	25,468	479,670	347
1951	468,904	22,823	33,899	56,722	525,626	292
1952	418,757	20,957	26,687	47,643	466,400	262
1953	426,798	19,584	14,176	33,760	460,558	227
1954	363,060	15,911	15,130	31,041	394,101	199
1955	423,412	17,185	34,092	51,277	474,689	337
1956	432,858	20,655	47,898	68,553	501,411	356
1957	413,668	18,445	58,001	76,446	490,114	367
1958	366,703	12,238	38,055	50,293	416,996	307
1959	366,256	12,407	24,847	37,253	403,509	375
1960	380,429	11,639	24,902	36,541	416,970	260
1961	374,405	11,169	23,801	34,970	409,375	164
1962	387,774	11,410	27,004	38,413	426,187	232
1963	409,225	13,762	33,316	47,078	456,303	267
1964	431,116	14,187	33,782	47,969	479,085	293
1965	459,164	15,661	34,521	50,181	509,345	184
1966	486,266	15,829	33,473	49,302	535,568	178
1967	480,416	15,308	34,220	49,528	529,944	227
1968	498,830	16,748	33,889	50,637	549,467	224
1969	507,275	16,789	39,445	56,234	563,509	109
1970	515,619	18,673	52,270	70,944	586,563	36
1971	494,862	17,565	39,068	56,633	551,495	111
1972	516,776	18,161	37,836	55,997	572,773	47
1973	556,022	16,231	36,639	52,870	608,892	127
1974	552,709	13,706	46,220	59,926	612,635	2,080
1975	556,301	16,735	48,933	65,669	621,970	940
1976	598,750	16,497	42,909	59,406	658,156	1,203
1977 1/	619,616	17,166	36,522	53,687	673,303	1,803

1/ Preliminary.

*Source: National Coal Association, Coal Facts, 1978-1979. Figures originally tabulated by the U. S. Bureau of Mines.

TOTAL UNITED STATES OIL PRODUCTION AND PROVED RESERVES, 1920-1977
(Thousands of Barrels)

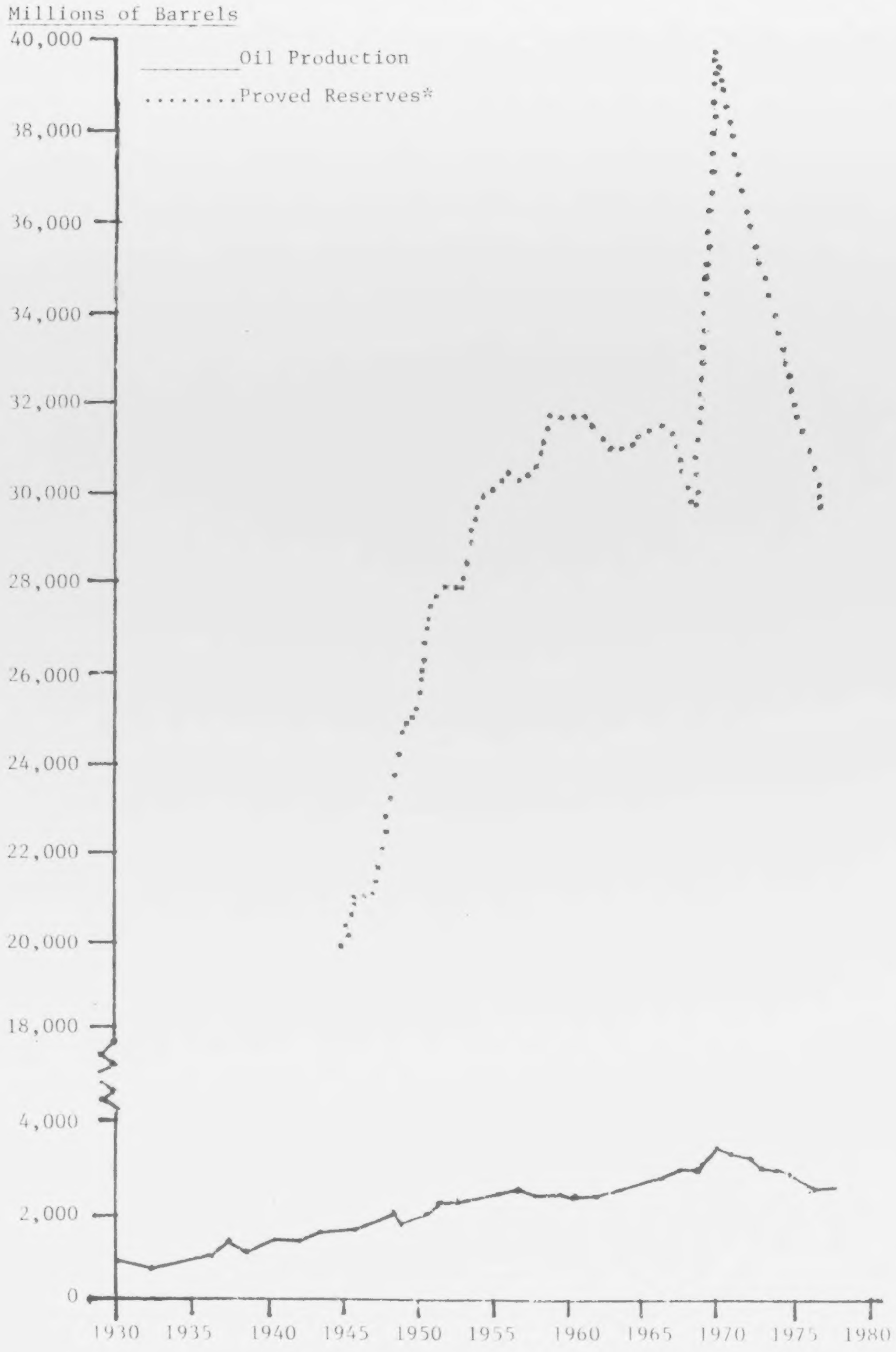
YEAR	PRODUCTION	YEAR-END RESERVES*
Pre-1920	5,068,355	
1920	442,609	
1921	471,379	
1922	558,689	
1923	732,850	
1924	713,081	
1925	763,927	
1926	771,137	
1927	901,719	
1928	901,442	
1929	1,007,495	
1930	895,983	
1931	850,014	
1932	783,558	
1933	904,930	
1934	905,681	
1935	991,590	
1936	1,086,886	
1937	1,265,222	
1938	1,205,243	
1939	1,253,416	
1940	1,334,525	
1941	1,388,985	
1942	1,374,132	
1943	1,49[illegible],529	
1944	1,669,217	
1945	1,704,786	19,941,846
1946	1,727,702	20,873,560
1947	1,850,421	21,487,685
1948	2,002,162	23,280,444
1949	1,823,873	24,649,489
1950	1,950,866	25,268,398
1951	2,211,790	27,468,031
1952	2,256,354	27,960,554
1953	2,313,451	28,944,828
1954	2,272,365	29,560,746
1955	2,425,177	30,012,170
1956	2,558,813	30,434,649
1957	2,558,873	30,300,405
1958	2,377,009	30,535,917
1959	2,492,488	31,719,347
1960	2,472,914	31,613,211
1961	2,507,990	31,758,505
1962	2,552,830	31,389,223
1963	2,613,323	30,969,990
1964	2,645,324	30,990,510
1965	2,699,196	31,352,391
1966	2,863,343	31,452,127
1967	3,046,841	31,376,670
1968	3,160,362	30,707,117
1969	3,187,860	29,631,862
1970	3,327,712	39,001,335
1971	3,297,762	38,062,957
1972	3,273,253	36,339,408
1973	3,177,462	35,299,839
1974	3,034,462	34,249,956
1975	2,901,502	32,682,127
1976	2,837,045	30,942,166
1977	2,859,544	29,486,402

Note: American Petroleum Institute and American Gas Association data differ from the tabulations of the U. S. Bureau of Mines due to differences in definitions and data collection procedures.

*Figures published prior to 1945 are omitted since they are not on the same basis as the series beginning in 1945.

Source: American Gas Association and American Petroleum Institute Reserves of Crude Oil, Natural Gas Liquids and Natural Gas in the United States and Canada as of December 31, 1977.

PRODUCTION AND PROVED RESERVES OF CRUDE OIL IN THE UNITED STATES
(1930-1980)



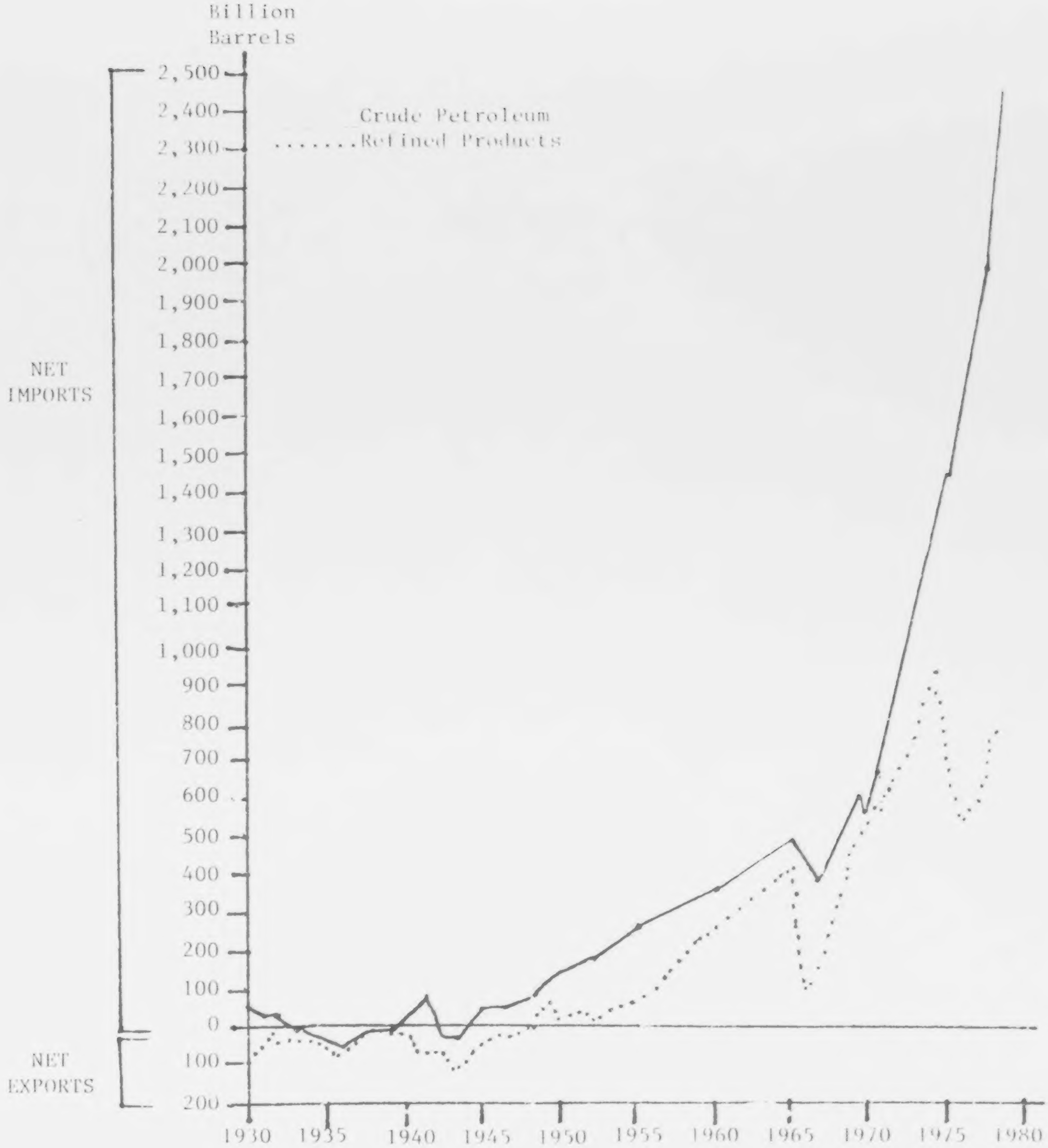
*Note: Figures published prior to 1945 are omitted since they are not on the same basis as the series beginning in 1945.

UNITED STATES NET IMPORTS AND EXPORTS OF CRUDE PETROLEUM AND REFINED PETROLEUM PRODUCTS, 1930-1977
(Thousands of Barrels)

YEAR	CRUDE PETROLEUM		REFINED PETROLEUM PRODUCTS	
	NET IMPORTS	NET EXPORTS	NET IMPORTS	NET EXPORTS
1930	37,424			89,505
1931	21,715			60,022
1932	17,289			46,070
1933		4,691		56,642
1934		5,569		58,444
1935		19,139		56,337
1936		17,986		56,904
1937		39,750		75,927
1938		50,842		88,578
1939		38,981		90,918
1940		8,834		37,881
1941	17,368			29,056
1942		21,537		59,404
1943		27,509		59,036
1944	10,567			125,872
1945	41,097			111,997
1946	43,630			59,077
1947	51,177			56,265
1948	89,357			35,887
1949	120,617			4,434
1950	142,891		56,064	
1951	152,469		3,673	
1952	182,895		7,424	
1953	216,524		14,384	
1954	225,880		28,342	
1955	273,950		601	
1956	313,209		54,996	
1957	323,012		44,390	
1958	343,678		174,274	
1959	382,073		216,054	
1960	397,759		216,400	
1961	378,321		257,782	
1962	409,249		288,954	
1963	410,962		287,837	
1964	437,280		315,577	
1965	450,943		381,950	
1966	445,643		421,119	
1967	385,108		42,823	
1968	470,521		454,954	
1969	512,413		519,222	
1970	478,302		633,783	
1971	612,914		679,607	
1972	810,948		765,707	
1973	1,183,299		908,376	
1974	1,268,081		882,375	
1975	1,496,035		633,533	
1976	1,935,012	2,941	705,256	78,658
1977	2,414,327	18,255	773,899	70,333

*Source: Department of Energy

UNITED STATES NET IMPORTS AND EXPORTS OF CRUDE PETROLEUM
AND REFINED PETROLEUM PRODUCTS - 1930-1977*



*Each consecutive year plotted for 1930 through 1977.

NUMBER OF PRODUCING GAS WELLS IN THE UNITED STATES
1960-1977

Year	Number of Producing Gas Wells
1960	90,761
1961	96,809
1962	100,267
1963	102,966
1964	103,084
1965	111,680
1966	115,698
1967	112,321
1968	114,391
1969	114,476
1970	118,864
1971	117,300
1972	119,167
1973	123,034
1974	126,997
1975	132,095
1976	137,443
1977	145,453

*Source: American Gas Association

MARKETED PRODUCTION AND AVERAGE WELLHEAD PRICE
OF NATURAL GAS IN THE UNITED STATES 1960-1977

Year	United States Marketed Production (MMCF)	United States Average Wellhead Price (MCF)
1960	12,775,038	14.0
1961	13,254,025	15.1
1962	13,876,622	15.5
1963	14,746,663	15.8
1964	15,546,592	15.4
1965	16,039,753	15.6
1966	17,206,628	15.7
1967	18,171,325	16.0
1968	19,322,400	16.4
1969	20,698,240	16.7
1970	21,920,642	17.1
1971	22,493,012	18.2
1972	22,531,698	18.6
1973	22,647,549	21.6
1974	21,600,522	30.4
1975	20,108,661	44.5
1976	19,952,438	58.0
1977	20,025,463	79.0

MCF: Thousand Cubic Feet

MMCF: Million Cubic Feet

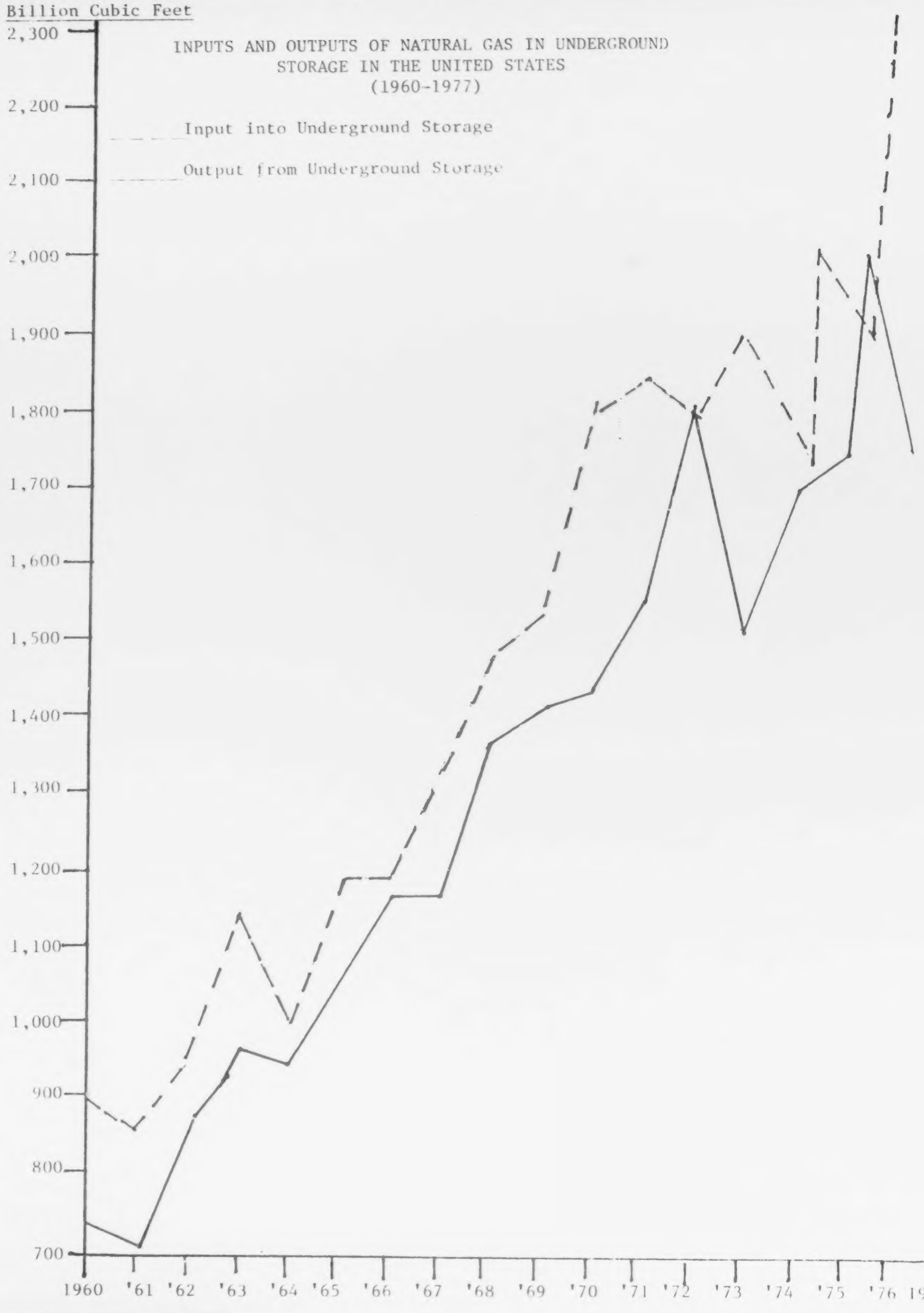
Source: American Gas Association. Gas Facts - 1977.

UNITED STATES TOTAL
INPUTS, OUTPUTS, AND GAS IN UNDERGROUND STORAGE
1960-1977
(Million Cubic Feet)

Year	Input to Storage	Output from Storage	Gas in Storage	Maximum Gas in Storage	Maximum Day Output
1960	898,861	732,743	1,694,766	1,893,443	12,528
1961	859,542	710,874	1,837,196	2,051,931	12,479
1962	951,564	859,945	1,953,539	2,215,803	15,705
1963	1,140,276	962,762	2,140,307	2,448,131	17,789
1964	1,104,226	944,092	2,312,890	2,521,567	15,918
1965	1,189,782	1,057,442	2,458,019	2,644,872	17,635
1966	1,195,159	1,169,052	2,506,371	2,790,986	19,625
1967	1,345,879	1,172,727	2,647.557	3,015,983	19,041
1968	1,473,820	1,365,805	2,745,939	3,185,796	22,411
1969	1,541,697	1,417,559	2,851,159	3,302,540	21,562
1970	1,807,453	1,439,962	3,206,812	3,625,797	26,280
1971	1,849,716	1,561,558	3,523,154	3,958,587	29,265
1972	1,799,302	1,821,855	3,523,053	4,088,161	29,957
1973	1,910,545	1,521,368	3,906,232	4,361,902	28,815
1974	1,767,589	1,705,211	3,968,754	4,504,648	28,252
1975	2,044,342	1,731,507	4,276,984	4,865,074	30,621
1976	1,918,541	2,059,898	4,111,657	5,113,682	35,541
1977	2,303,268	1,735,868	4,668,288	5,236,878	36,556

*Source: American Gas Association - The Underground Storage in the U.S. & Canada

Note: Natural Gas Storage figures are estimated and, therefore, may not necessarily correlate from one chart (source) to another.



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ANNUAL ESTIMATES OF PROVED NATURAL GAS RESERVES IN THE UNITED STATES* - YEAR-END RESERVES, 1947-1977

(Millions of Cubic Feet)

Year	Non-Associated	Associated-Dissolved	Underground Storage	Proved Year-End Reserves	Natural Gas Production
1947	119,101,110	45,924,655	a	165,025,765	5,599,235
1948	122,724,358	49,995,941	204,757	172,925,056	5,975,001
1949	125,432,561	53,682,229	286,903	179,401,693	6,211,124
1950	129,919,009	54,325,898	339,838	184,584,745	6,855,244
1951	133,044,892	59,242,150	471,868	192,758,910	7,923,673
1952	136,892,642	61,069,290	669,634	198,631,566	8,592,716
1953	146,052,855	63,062,645	1,183,263	210,298,763	9,188,365
1954	145,282,729	64,004,531	1,273,671	210,560,931	9,375,314
1955	151,229,351	69,892,358	1,360,835	222,482,544	10,063,167
1956	159,163,774	75,825,365	1,494,076	236,483,215	10,848,685
1957	167,558,391	75,998,909	1,672,837	245,230,137	11,439,890
1958	176,894,570	74,136,803	1,730,419	252,761,792	11,422,651
1959	183,170,257	76,109,302	1,890,872	261,170,431	12,373,063
1960	185,291,523	74,862,658	2,172,145	262,326,326	13,019,356
1961	190,669,393	73,272,560	2,331,689	266,273,642	13,378,649
1962	198,687,335	71,100,603	2,490,920	272,278,858	13,637,973
1963	201,219,649	72,186,931	2,744,653	276,151,233	14,546,025
1964	207,122,360	71,189,331	2,939,763	281,251,454	15,347,028
1965	213,315,274	70,063,403	3,090,246	286,468,923	16,252,293
1966	217,426,169	68,681,867	3,224,769	289,332,805	17,491,073
1967	221,751,275	67,780,256	3,376,172	292,907,703	18,380,838
1968	220,990,299	62,864,813	3,494,740	287,349,852	19,373,427[d]
1969	211,873,282	59,633,644	3,601,909	275,108,835	20,723,190
1970	204,098,552	82,643,929	4,003,927	290,746,408	21,960,804
1971	195,953,617	78,537,773	4,314,228	278,805,618	22,076,512
1972	186,072,643	75,541,412	4,470,791	266,084,846	22,511,898
1973	172,245,938	73,587,760	4,116,509b	249,950,207	22,605,406
1974	162,192,222	71,002,190	3,938,085b	237,132,497	21,318,470
1975	156,785,551	67,173,979	4,240,646b	228,200,176	19,718,570
1976	148,637,755	63,335,223	4,053,096	216,026,074	19,542,020
1977	142,460,202	61,917,650	4,500,026	208,877,878	19,447,050

Note: Natural gas storage figures are estimated and, therefore, may not necessarily correlate from one chart to another.

* - Includes off-shore reserves.

a - Not estimated.

b - The net difference between gas stored in and gas withdrawn from underground storage reservoirs, inclusive of adjustments and native gas transferred from other reserve categories.

d - Preliminary net production.

Source: American Gas Association and American Petroleum Institute - Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977.

ANNUAL ESTIMATES OF NATURAL GAS PRODUCTION AND RESERVES IN THE UNITED STATES 1947-1977

(Millions of Cubic Feet)

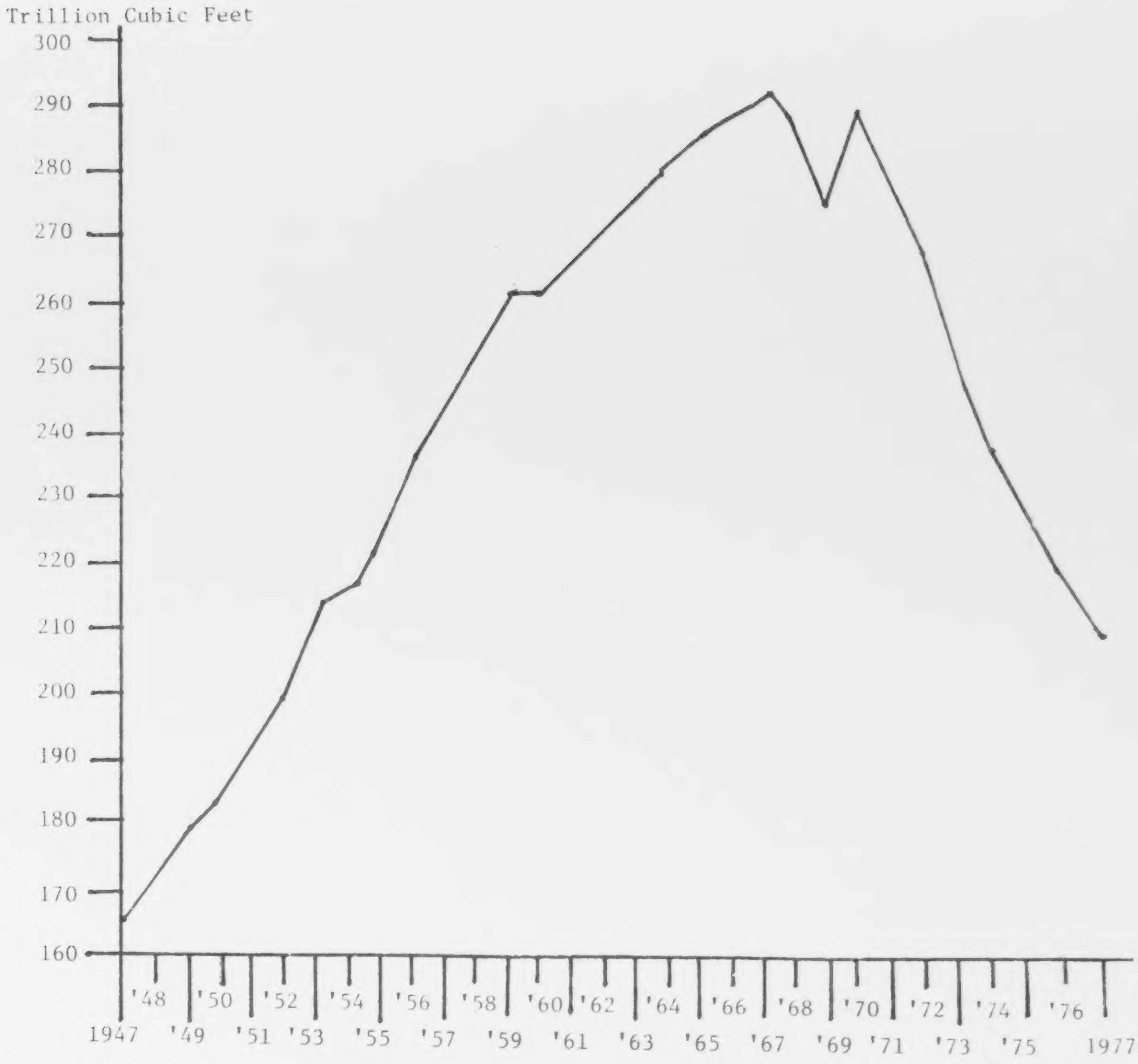
Year	Natural Gas Production	Proved Reserves at End of Year	Net Change in Reserves from Previous Year
1945		146,986,723	
1946	4,915,774	159,703,813	12,717,090
1947	5,599,235	165,025,765	5,321,952
1948	5,975,001	172,925,056	7,899,291
1949	6,211,124	179,401,693	6,476,637
1950	6,855,244	184,584,745	5,183,052
1951	7,923,673	192,758,910	8,174,165
1952	8,592,716	198,631,566	5,872,656
1953	9,188,365	210,298,763	11,667,197
1954	9,375,314	210,560,931	262,168
1955	10,063,167	222,482,544	11,921,613
1956	10,848,685	236,483,215	14,000,671
1957	11,439,890	245,230,137	8,746,922
1958	11,422,651	252,761,792	7,531,655
1959	12,373,063	261,170,431	8,408,639
1960	13,019,356	262,326,326	1,155,895
1961	13,378,649	266,273,642	3,947,316
1962	13,637,973	272,278,858	6,005,216
1963	14,546,025	276,151,233	3,872,375
1964	15,347,028	281,251,454	5,100,221
1965	16,252,293	286,468,923	5,217,469
1966	17,491,073	289,332,805	2,863,882
1967	18,380,838	292,907,703	3,574,898
1968	19,373,427[d]	287,349,852	(5,557,851)
1969	20,723,190	275,108,835	(12,241,017)
1970	21,960,804	290,746,408	15,637,573
1971	22,076,512	278,805,618	(11,940,790)
1972	22,511,898	266,084,846	(12,720,772)
1973	22,605,406	249,950,207	(16,134,639)
1974	21,318,470	237,132,497	(12,817,710)
1975	19,718,570	228,200,176	(8,932,321)
1976	19,542,020	216,026,074	(12,174,102)
1977	19,447,050	208,877,878	(7,148,196)

d - Preliminary net production.

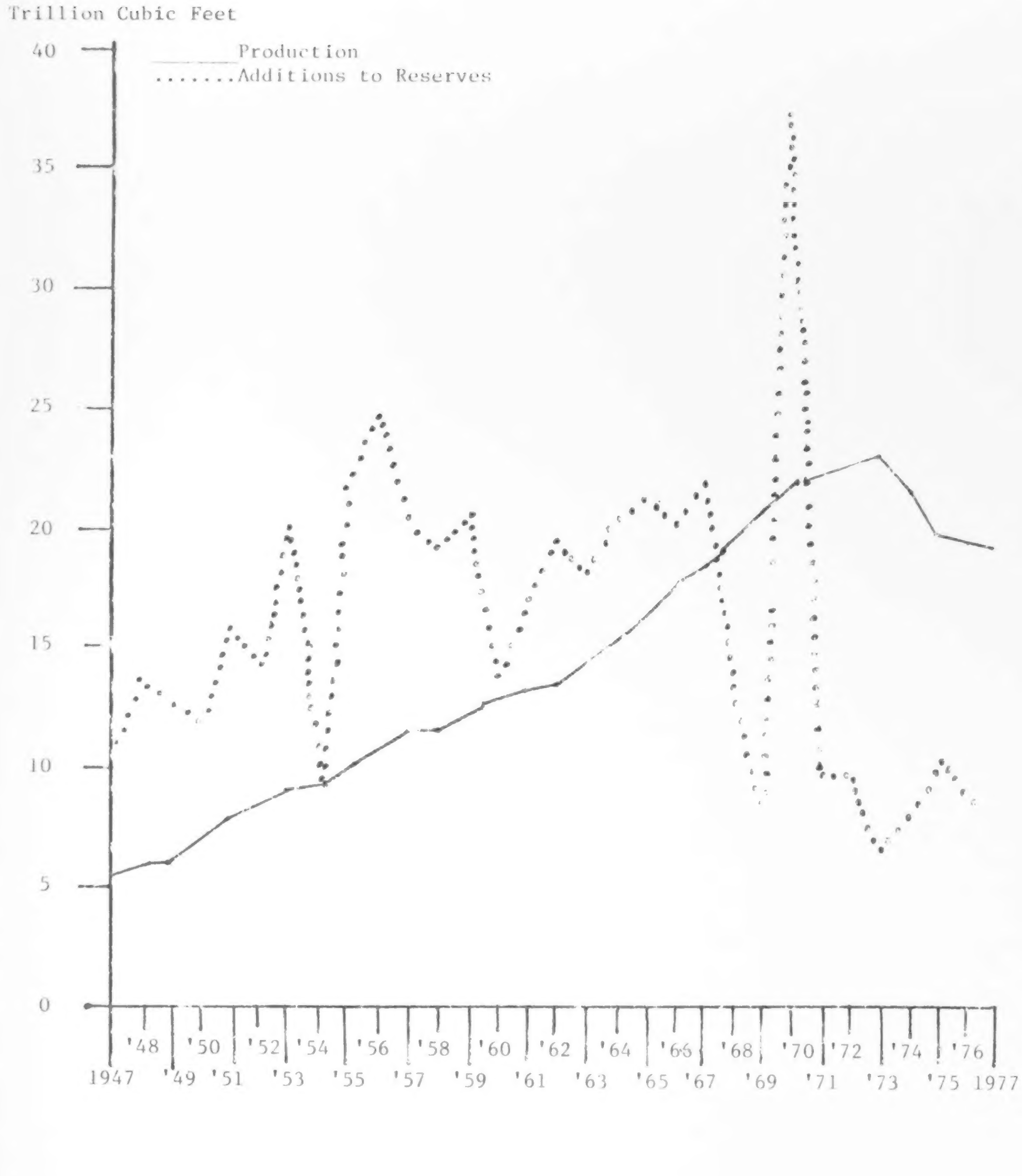
( ) - Denotes negative volume.

Source: American Gas Association and American Petroleum Institute, Reserves of Crude Oil, Natural Gas Liquids, and Natural Gas in the United States and Canada as of December 31, 1977.

UNITED STATES NATURAL GAS RESERVES
(1947-1977)



UNITED STATES NATURAL GAS PRODUCTION
AND ADDITIONS TO RESERVES BY YEAR
(1947-1977)



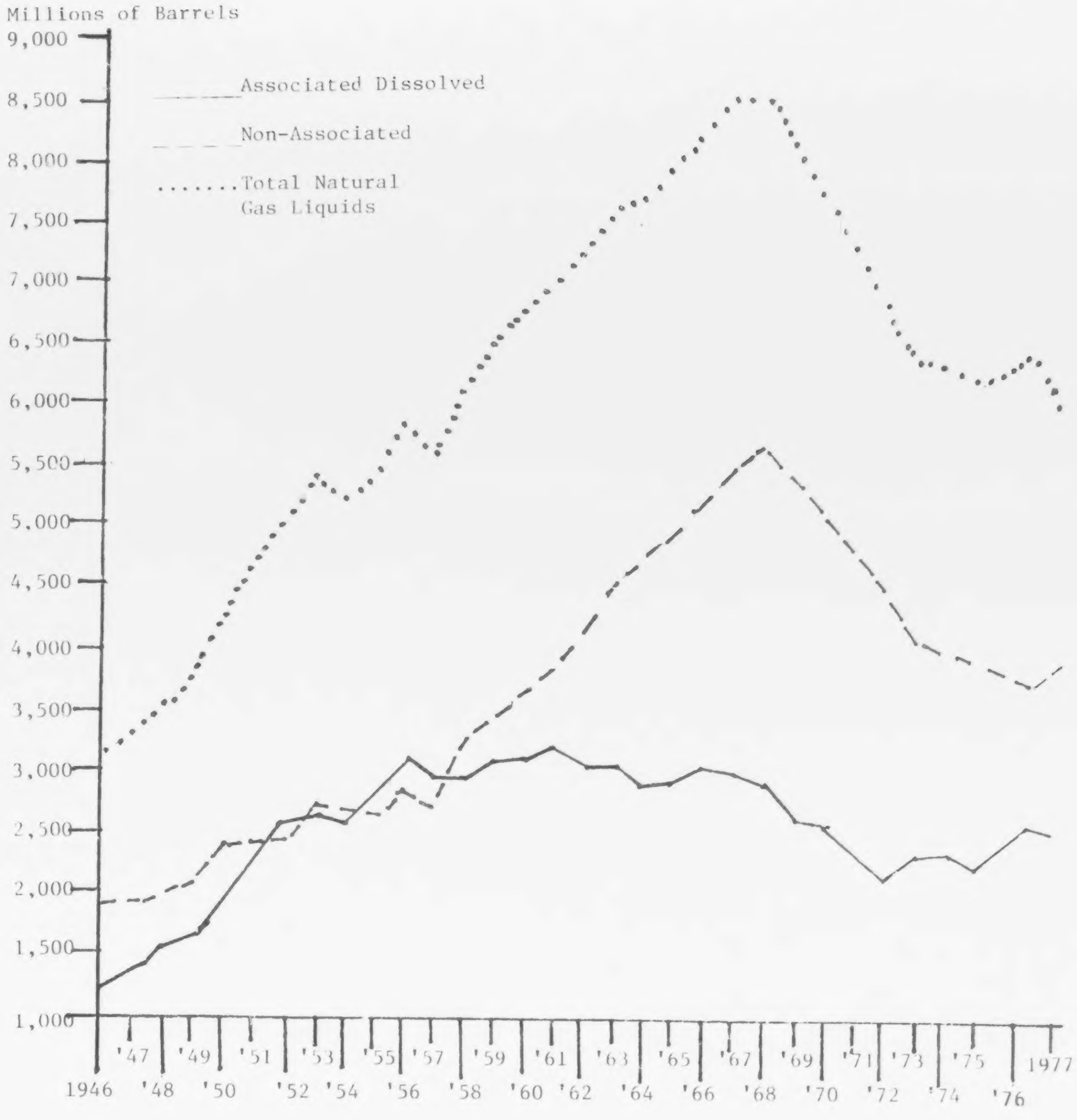
PRODUCTION AND ANNUAL ESTIMATES OF PROVED NATURAL GAS
LIQUIDS RESERVES IN THE UNITED STATES, 1945-1977
(Thousands of Barrels)

YEAR	NON-ASSOCIATED	ASSOCIATED-DISSOLVED	PROVED RESERVES AT END OF YEAR	PRODUCTION OF NATURAL GAS LIQUIDS
1945	a	a	a	a
1946	1,929,926	1,233,293	3,163,219	129,262
1947	1,928,127	1,325,848	2,253,975	160,782
1948	2,023,155	1,517,628	3,540,783	183,749
1949	2,104,620	1,624,392	3,729,012	198,547
1950	2,372,189	1,895,474	4,267,663	227,411
1951	2,404,128	2,320,474	4,724,602	267,052
1952	2,411,496	2,585,155	4,996,651	284,789
1953	2,729,919	2,708,003	5,437,922	302,698
1954	2,648,599	2,595,858	5,244,457	300,815
1955	2,619,926	2,818,639	5,438,565	320,400
1956	2,809,846	3,092,486	5,902,332	346,053
1957	2,706,246	2,981,114	5,687,360	352,364
1958	3,230,975	2,973,043	6,204,018	341,548
1959	3,417,915	3,104,393	6,522,308	385,154
1960	3,686,986	3,129,073	6,816,059	431,379
1961	3,852,152	3,196,944	7,049,096	461,649
1962	4,237,659	3,073,858	7,311,517	470,128
1963	4,571,636	3,102,342	7,673,978	515,659
1964	4,791,833	2,954,799	7,746,632	536,090
1965	5,040,024	2,983,510	8,023,534	555,410
1966	5,229,261	3,099,705	8,328,966	588,684
1967	5,575,956	3,038,275	8,614,231	644,493
1968	5,693,001	2,905,107	8,598,108	701,782
1969	5,416,898	2,726,276	8,143,174	735,962
1970	5,110,939	2,592,002	7,702,941	747,812
1971	4,867,070	2,437,157	7,304,227	746,434
1972	4,572,721	2,213,838	6,786,559	755,941
1973	4,124,031	2,330,676	6,454,707	740,831
1974	4,109,128	2,241,321	6,350,449	724,099
1975	4,040,128	2,227,702	6,267,830	701,123
1976	3,857,728	2,544,239	6,401,967	700,629
1977	3,653,747	2,340,618	5,994,365	698,773

a: Not estimated.

Source: American Gas Association and American Petroleum Institute - Reserves of Crude Oil, Natural Gas Liquids and Natural Gas in the United States and Canada as of December 31, 1977.

ANNUAL ESTIMATES OF PROVED NATURAL GAS
LIQUIDS RESERVES IN THE UNITED STATES
(1946-1977)

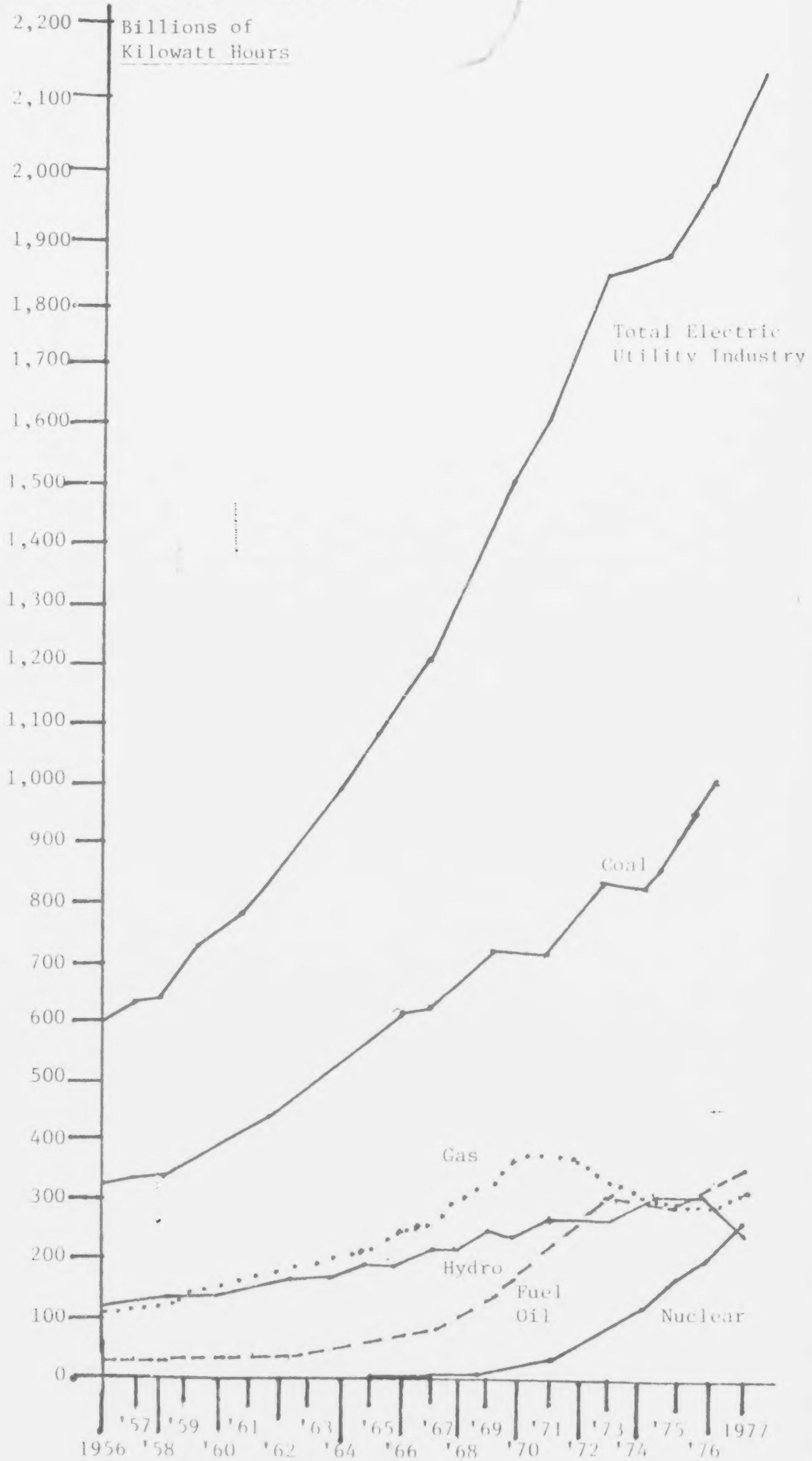


UNITED STATES ELECTRIC POWER GENERATION BY
FUEL SOURCE OR PRIME MOVER, 1956-1977*
(Millions of Kilowatt Hours)

YEAR	COAL	FUEL OIL	GAS	NUCLEAR	HYDRO	TOTAL ELECTRIC UTILITY INDUSTRY
1956	338,503	35,947	104,037	-	122,029	600,668
1957	346,386	40,500	114,212	10	130,232	631,507
1958	344,366	40,372	119,759	165	140,262	645,098
1959	378,424	46,840	146,619	188	137,782	710,006
1960	403,067	46,105	157,970	518	145,516	753,350
1961	421,871	47,120	169,286	1,692	151,850	792,039
1962	450,249	46,983	184,301	2,270	168,283	852,314
1963	493,927	52,001	201,602	3,212	165,755	916,793
1964	526,230	56,954	220,038	3,343	177,073	983,990
1965	570,926	64,801	221,559	3,657	193,851	1,055,252
1966	613,475	78,926	251,151	5,520	194,756	1,144,350
1967	630,483	89,271	264,806	7,655	221,518	1,214,365
1968	684,905	104,276	304,433	12,528	222,491	1,329,443
1969	706,001	137,847	333,279	13,928	250,193	1,442,182
1970	706,102	182,488	372,884	21,797	247,456	1,531,609
1971	714,756	218,162	375,939	37,899	226,320	1,613,936
1972	770,617	272,482	375,682	54,031	272,734	1,747,323
1973	845,704	312,805	340,449	83,344	271,634	1,856,216
1974	829,830	299,296	319,935	112,740	300,447	1,864,961
1975	852,786	289,095	299,778	172,505	300,047	1,917,649
1976	944,391	319,988	294,624	191,104	283,707	2,037,696
1977	985,219	358,179	305,505	250,883	220,475	2,124,323

Note: Individual columns do not add to total due to two separate charts being used for this compilation. Variance less than .2%.

*Alaska and Hawaii included since 1963.

Source: Department of Energy - Monthly Energy Review, 1978.

UNITED STATES ELECTRIC POWER GENERATION BY FUEL SOURCE
OR PRIME MOVER 1956 - 1977